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The ILLINOIS Medical Journal

VOL. 101 NO. 5

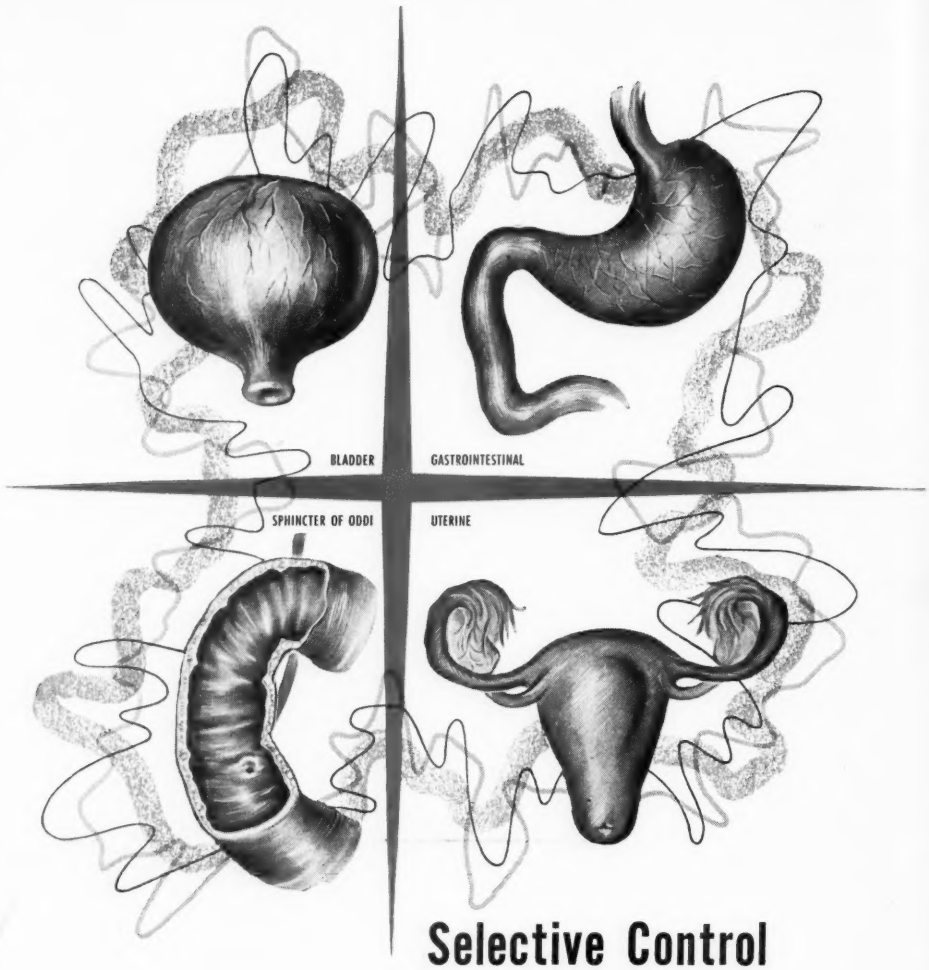
May, 1952

So-Called Pulmonary Adenomatosis of the Lungs

Pudendal Nerve Block in Private Obstetric Practice

(See page 5 for Table of Contents)

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY



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Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in section 1102, Act of October 8, 1917, authorized July 15, 1918. Office of Publications, 715 Lake Street, Oak Park, Ill.

The
ILLINOIS Medical Journal

Official Journal of the Illinois State Medical Society

Harold M. Camp, EDITOR. Theodore R. Van Dellen, ASSOCIATE EDITOR.

EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry Culver, Raymond W. McNealy, Arkell M. Vaughn, Edwin F. Hirsch, Charles G. Farnum

Vol. 101, No. 5 May, 1952

PRECEPTOR AND PUPIL

"An ounce of practice is worth a pound of preaching."

John Ray.

Medical education in the United States, as in other countries, has gone through various stages conditioned in part by social or economic situations and in part by advances in knowledge, particularly in the sciences which underlie medicine and the invention of new techniques. In colonial days, when the country was sparsely settled and the number of trained physicians was limited, many medical practitioners were trained under a system of apprenticeship. While these men were often deficient in general education and, of necessity, knowledge of what we now call the preclinical sciences, they had practical training in the handling of emergencies, the preparation and use of simple remedies and appliances, and most important of all, in the art of managing patients and their families and friends. With the founding of medical schools this system of preceptorship gradually died out and, after a period of mainly didactic teaching which lasted almost to the end of the nineteenth century, the modern medical school with its increased entrance requirements, its lengthened course, its laboratory instruction under fulltime teachers, and its hospital and dispensary affiliations, gradually came into existence.

No one can deny that the present system, a combination of the German plan, built around the laboratory, and the French and English plans, built around the hospital, is in most regards satisfactory. And yet, when an old plan is superseded by a new one, it is always well to consider whether something of real value may not have been discarded. One question which seems to be a legitimate one to raise is this: admitting that the present scheme frequently permits direct contact between student and patient, usually in teaching hospitals and dispensaries, does such contact result in the same kind of experience as was gained by a student on colonial days when he accompanied his preceptor on his rounds and came into contact with his private patients?

We think that this question must be answered in the negative. Hospital practice is not the same as private practice, for while private practice in the hands of a competent family doctor is an intensely personal matter, hospital practice definitely tends to be impersonal. Patients in a hospital are commonly spoken of as "cases"; the attending physician, the internes, and the students, at least on the public wards, are at the outset usually complete strangers to them. That intimate personal relation with its attendant understanding and camaraderie, which exists in the best kind of private practice is quite lacking. As the old Bath physician, Caleb Hillier Parry, once wrote: "It is much more im-

portant to know what sort of a patient has a disease, than what sort of a disease a patient has." Not that hospital patients are usually treated with inhumanity, though even that has been known to occur occasionally, but they may be handled with a scientific detachment which is galling to some sensitive natures and may lack the personal touch which prevails in private practice. Might we not have better practitioners if it was a requirement of modern medical schools that every student should serve a stated period, perhaps part of his summer vacation, as a disciple of some competent general practitioner?

G. B.

HEPARIN AND ANGINA PECTORIS

Lyon and Yankley of the University of California gave injections of heparin to fifty-nine patients suffering with moderate or severe angina pectoris. Marked relief from symptoms was noted in fifty-five along with a drastic decrease in nitro-glycerine requirement. There was sufficient evidence to prove that these patients had coronary sclerosis. Forty-five of the group had had bona fide attacks of coronary thrombosis. Eight of the remaining fourteen had hypertension with electrocardiographic evidence of left ventricular hypertrophy. There was definite evidence of coronary insufficiency in four others. All of these patients had been treated from periods of one to eight months. They received from one to two injections of 50 to 100 mg. of sodium heparin. Some received the drug intravenously and others received it intramuscularly. Relief was noted after the first few injections. There has been no evidence of an increased tolerance to heparin even in the seventeen cases, which had been under treatment for over six months.

The size of the dose and infrequency of injection suggests that some factors other than vasodilatation or anti-thrombotic activity are responsible. Apparently, heparin has a direct effect upon the lipoproteins.

Heparin acts rapidly (within minutes to hours) in altering the blood lipoprotein spectrum. Apparently the larger atherosclerosis producing molecules are transformed into smaller classes or lipoproteins in the serum. This step probably is part of the physiologic interconversion of lipoproteins and represents the "normal pathway of transport and metabolism of fat." They believe that a deficiency of a heparin like substance may block this process and leads to a piling up in concentration of such molecules. This may explain why heparin protects rabbits from developing atherosclerosis under circumstances which otherwise produce the disease.

LICENSURE EXAMINATIONS

More than three-fourths of all applicants who took an examination for licensure as physicians in Illinois April 1 to 3 in Chicago are graduates of foreign medical schools, it was announced by C. Hobart Engle, state director of Registration and Education.

Engle said that 88 of the 108 applicants seeking to take written and clinical tests are graduates of foreign medical schools. In addition, some of 30 additional applicants scheduled to take clinical tests received their medical training in medical schools outside the United States.

Forty-eight of the foreign graduates submitted to an oral interview by members of the Illinois state medical examining committee.

Under provisions of the Illinois medical practice act only graduates of accredited foreign medical schools can take the tests. In addition, each applicant must have completed a full year of internship in an approved hospital in the United States.

Engle said that under provisions of a newly announced rule foreign medical school graduates must complete interne training in Illinois hospitals after January 1 next year.

Written tests were given in Chicago offices of the department at 160 North LaSalle street while clinical tests will be conducted at Cook County Hospital.

The examining board includes five physicians and one member each from the osteopathic and chiropractic professions. Medical members are Dr. Edwin S. Hamilton, Kankakee, chairman; Dr. Thomas P. Foley, secretary; Dr. Josiah J. Moore, and Dr. Frank Fowler, all of Chicago; and Dr. Phillip G. Thomsen, Dolton.

Dr. L. P. Rehberger, Highland, and Dr. Hanson L. Dinges, Orangeville, are the chiropractic and osteopathic members of the committee.

DR. DANIEL DRAKE'S MEDICAL PREDICTIONS FOR THE ILLINI COUNTRY MADE 100 YEARS AGO

David J. Davis, M.D. — Permanent Historian

Over a century ago, Dr. Daniel Drake published his monumental work for Diseases of the Mississippi Valley including the Illini country. This was issued after years of travel and research, including extensive correspondence with physicians and other well-informed persons living in this region. His observations covered a wide variety of subjects related to health and disease—climate, weather, rainfall, temperature, fauna, flora, geology, soil, lakes, rivers, hills, valleys, swamps, forests, topography, winds, as well as many other physiographic details. He also included a discussion of the several races living in the region and the various relations of the above factors to them.

These extensive data concerned chiefly the infectious diseases as they were known at that time (about 1840). Much of the country was then primitive. Also at that time the identification of many diseases was definitely limited from lack of medical knowledge, especially of methods of diagnosis. His observations, however, have been of great value historically and from the standpoint of medical geography. His early data especially on various fevers, intestinal diseases, pulmonary afflictions, cholera, milk sickness and others deserve commendation. In Illinois he traversed wide areas at the very time when many such afflictions reached their highest prevalence and when the Illinois country was becoming known widely as a "land of pestilence."

In Illinois he comments in detail on certain regions adjacent to the main river systems: namely the Kaskaskia, the Illinois, the Kankakee, the Rock Rivers and also the Lake Michigan Basin. He describes the regional forests especially along the river valleys and their relation to the "Grand Prairie" which he says is the most extensive open prairie land east of the Mississippi River. The comments here and there on the incidence of the autumnal fevers (malaria and others) in the various localities as reported to him at that time (1840-50) by the many pioneer physicians he consulted along the way. His remarks about the Chicago region and the topographical data given by him at that early date are most intriguing.

Interesting and informative data and opinions on such subjects as lodging, clothing, bathing, habitations, etc. are available for studies having to do with the early history of hygiene in Illinois.

At the conclusion of Book 1, written in the eighteen forties, Dr. Drake attempts to do what few doctors would have dared, namely to hazard certain predictions as to the future of the several diseases as follows:

1. Autumnal fever (malaria) will decrease, and typhus and typhoid fevers become more prevalent.
2. Gout will occur oftener than at present.
3. The diseases produced by the intemperate use of ardent spirits will diminish.
4. Consumption and scrofula will increase.
5. Apoplexy, palsy, and epilepsy will become more frequent.
6. Diseases of the liver will become less, and those of the mucous membrane of the bowels more prevalent.
7. Lastly, mental alienation will be more frequent.

The above are intriguing predictions for one to consider at the present time after over 100 years have passed. Would any of us do much better today, or even as well, were we to hazard predictions as to the course of any representative group of diseases during the next 100 years.

MEDICAL ECONOMICS

The Medical Economics Committee. Chauncey C. Maher, Chairman, John R. Wolff, Co-Chairman, Edwin F. Hirsch, Carroll Birch, Hubert L. Allen, Frederick W. Slobe, Edward W. Cannady, Ford K. Hick, W. Robert Malony, Roland R. Cross, Alfred P. Bay, Frederic T. Jung.

"Speak Up, Doctor, Loud and Clear"

W. Robert Malony, M.D.
Pittsfield

In recent years the medical profession has been under attack by various factions. Apparently a group of government politicians crystallized the complaints of a minority of people who misunderstood the present situation.

Up to the present time the doctors have been defending themselves as best they could through promoting private insurance schemes, political action, and publicity.

The complaints apparently simmer down to a misunderstanding of fees in certain instances and complaints regarding excess fees in other instances. In addition, there is the question of hospital care for prolonged illnesses and another complaint is inability of certain patients to obtain adequate medical care.

It is my opinion that, at times, doctors may be at fault in the handling of their charges. I will cite a couple of cases that have come to my attention. The first one involves a surgeon who, in speaking to the husband of the patient regarding the charge for her surgery and hospital care, spoke somewhat like this, "Well, a thousand dollars is a lot of money, and a hundred dollars isn't very much money. I will leave it up to you as to how much you pay me". This surgeon was entirely honest in feeling that he had given his fee range for the work done and that he was leaving it up to the husband to place himself in the proper category within that range. However, the patient's husband misunderstood the doctor. He got the idea that the charge was a thousand dollars, but if he couldn't pay that much the doctor would take whatever he could get. This doctor was, in his own mind, being entirely fair to the patient. The doctor's failing was in wording his statements and the manner in which he made the statements. It was necessary for a third party to explain the situation and thus the question of fees was satisfactorily settled to all concerned. However, the surgeon was guilty of poor public relations in his handling the conversation regarding the fee.

Another instance that I can quote concerns two patients who were of approximately the same economic status and who had identical operations

in the same hospital. They were in beds side by side. One of these patients was charged by her surgeon a fee of one hundred fifty dollars and the other patient was charged by a different surgeon a fee of three hundred dollars. It was difficult for the second patient to understand any logical reason that her charge should be so high. I see her point.

Now these things that I have just mentioned are cases which involve fees. There is, no doubt, a small minority of physicians who make excessively high charges. It is time that such individuals realize that this is neither fair to their patients, to their colleagues, or to themselves. Doctors whose training, reputation, and type of practice commands a fee larger than the usual are obligated to make this fact clear to their patients at the onset of treatment. The patient should be given a chance to consult a man whose fees are average if the patient cannot afford the fees of the doctor they first see. This is only fair to all concerned.

Doctors must begin to spend enough time with their patients to understand their problems. They must also meet their obligation to discuss the fees involved when the charges are going to be of a major character. These things are basic.

On the above points, it is high time that the physicians of this country get smart. However, on other criticisms of the medical profession, I think that we, as doctors, should get a few facts on the tips of our tongus and put the public straight. Doctors can speak to their patients, their friends, neighbors, luncheon clubs and in many of their contacts throughout their communities.

There is no doubt that some people who desire hospitalization are unable to get it. There are also some patients who might benefit by being in the hospital and have to delay entrance temporarily. It is obvious that, at present, everybody can't be completely satisfied with the medical care they get. Some people never will be. But we continually hear of patient being unable to get emergency medical attention. I have, as yet, been unable to find in our community or elsewhere any such cases. It is time that we speak up and ask the accusers to point out where and when it is that people don't get medical attention. They will be unable to show any such cases. Occasionally, in our community, such statements appear in the newspapers. Prompt investigation has always revealed the untruth of the statements. Our newspapers have willingly printed corrections in every case. It is time that doctors everywhere begin to speak up.

It is true that there are many more people of ages over sixty-five in our country today than there were ten, twenty, or thirty years ago. The doctors have been, in a measure, responsible for prolonging the life span. These people naturally require more in the way of hospital care and nursing home care.

It is a fact that the home life of this country has changed immeasurably during the past two or three decades. The reasons for this are multiple. This change has meant that if Grandma broke her hip, she now has to go to a hospital or nursing home. Twenty years ago this was not so. Twenty years ago if Grandma broke her hip, she was taken care of in the home. Much of the medical care that is given to people in the older age groups and people with chronic debilities now must be given in the hospital because there isn't anyone at home who will assume the responsibility for taking care of these people. This is due to a change in the way of life in this country and a difference in the mechanics of the modern home.

Many of these people could still be taken care of at home if there were anyone to take care of them. It is high time the doctors make it clear that it is the individuals involved in these cases who are at fault and not the doctors. The physicians have not been responsible for the change in the way of life. This is an economic change and a change in moral attitude of the people of this country.

There is, in addition, the following set of figures which should be in the mind of every doctor. During the last decade the cost of living went up sixty-nine percent. The total hospital bills went up sixty-seven percent. Many of these, of course, depend upon the cost of food and wages. The cost of prescriptions only went up thirty-seven percent and cost of doctors fees only went up thirty-eight percent. These figures are from the Department of Labor. We should all be able to quote them, and we should do so frequently.

The last information available on the number of individuals covered by voluntary health insurance is for the end of 1950. This information comes from the Health Insurance Council. It

shows that there are over seventy-five million people who have insurance which gives them coverage for hospital care. There are almost fifty-five million people whose coverage pays for surgical care, and there are over twenty million people who have insurance covering purely medical care. These figures show that the greatest gain ever in the numbers of people covered was during the last year for which information is available, this being 1950. We should have this information in our minds and be able to quote it.

Doctors can also tell things that their medical societies have done. They can tell about Medical Placement Bureaus aiding communities in getting physicians. Medical societies are aiding students by means of scholarships. They have sponsored Blue Shield Insurance. Great progress has been made in Grievance Committees. There are probably other things that have been accomplished that can be mentioned.

In conclusion, it is apparent that certain physicians should review their charges and revise their fee schedule so that it is a little more sensible. All of us should take the time to be clear in our conversations with our patients, particularly in regard to charges and be sure that the patient understands what we are saying. Aside from that, it is time that physicians make it clear that the medical care in this country is available to all, that it is the best that can be obtained anywhere in the world, and be ready to quote a few simple statistics to show that the cost of medical care has not raised nearly as much as the cost of living:

Cost of Living	Up 69%
Hospital Bills	Up 67%
Cost of Prescriptions	Up 37%
Doctors Bills	Up 38%
Hospital Insurance	Over 75 Million People
Surgical Insurance	About 55 Million People
Medical Insurance	Over 20 Million People

WHAT IS A WOMAN?

Last century there was born a prominent doctor who developed and designed a unique instrument with which some of you may be familiar in your nurse's training. Its purpose was to help to "see inside" of a body cavity, and I suppose this instrument properly bears its inventor's name as the Grave's speculum. With no less of a deep understanding of his subject, I should like to present this definition. According to Graves:

"The normal woman possesses symmetry, proportion, harmony and adaptation of structures and functions. She menstruates regularly, readily conceives and goes through pregnancy, labor, the puerperium and lactation without trouble. She is of moderate height, her contour exhibits soft curves. Her skin is clear and soft and presents no hair except on the pubes and the axillary regions. Her breasts are firm and well rounded, her pelvis is broad, her thighs are in close approximation and her buttocks are firm and prominent. Her face is small, her neck round, her scapulae flat on the thorax and the costal angle is under 90°. Her lower measurements are equal to her upper ones and her span approximates her height. She is supplied with those peculiar qualities which enable her to adapt herself well to her environment, to survive and to attain long life."

I have always felt that according to the specifications listed by Graves, if we were to meet a "normal" woman, she would probably be so "natural" and so dynamic that we would quite forget all about there being such a creature as a "normal" woman. We frequently see her, I believe. *Excerpt: Woman's Hazards in Business, Politics and Industry, Anthony Ruppersberg, Jr., M. D., Ohio State M. J., Jan. 1952*

CORRESPONDENCE

SELECTIVE SERVICE RULINGS FOR PHYSICIANS

Physicians are frequently called upon, as you know, to supply Selective Service local boards with medical evidence on behalf of individual registrants. It has occurred to us that a brief explanation as to the form such evidence should take may be helpful to your membership and might advantageously be published in the Society's journal.

To best serve the interests of the registrant, a doctor's report should show: (1) Time of onset of any and all disorders, (2) Present symptoms and findings, (3) Diagnosis, (4) Treatment, and (5) The prognosis when possible.

Other information, which is often of great assistance in evaluating the overall physical and mental fitness of a registrant for military service, includes the history of a healed disorder such as tuberculosis of any part of the body, osteomyelitis of the long bones, rheumatic fever, surgically repaired defects, mental disorders (of registrant or siblings), and recurrences of any of these conditions.

A registrant whose wife is pregnant may be deferred from military service provided the local board receives proof of pregnancy before the man is ordered for induction. Statements testifying to early pregnancy — under six weeks — are not acceptable as conclusive proof that pregnancy exists. However, if the doctor's affirmative opinion of the existence of pregnancy is verified by approved laboratory tests, a local board may— where induction of the registrant into military service is imminent — request the State Director of Selective Service to postpone induction of the registrant for thirty days in order that proof of pregnancy may be firmly established.

A doctor's statement testifying to the pregnancy of the wife of a registrant should state the expected date of delivery. Finally, when the baby is born, or if the pregnancy is terminated by miscarriage, or if the baby is lost at term, the attending physician is asked to notify the registrant's local board.

The best interests of the registrant are further served by submitting all medical reports in affidavit form. Selective Service regulations do not permit a local board to consider a medical report in the classification of a registrant unless the report is duly sworn to before a notary.

A medical report in affidavit form is also given more credence by the Armed Forces medical examiners when a registrant is delivered by his local board to the Armed Forces examination station for preinduction physical examination.

The above information is transmitted to the medical profession of the State not only as a service to young men with military obligations but also to protect the Government in the event of future claims for disability compensation. It is readily evident that, if a careful physical and mental examination is given each man selected

for service, and if that examination is supported and documented by carefully prepared medical affidavits from private physicians, the likelihood of many subsequent compensation claims by reason of disability will be avoided, and the young man finally accepted for military service will be an effective soldier.

PAUL G. ARMSTRONG
State Director

CLINICS FOR CRIPPLED CHILDREN LISTED FOR JUNE

Doctor Herbert R. Kobes, director of the University of Illinois Division of Services for Crippled Children., has released the June schedule of clinics for physically handicapped children. The Division will conduct 14 general clinics providing diagnostic orthopedic, pediatric, speech and hearing examinations along with medical, social and nursing services. There will be 4 special clinics for children with rheumatic fever and 2 for cerebral palsied children.

Clinics are held by the Division in cooperation with local medical and health organizations and groups, hospitals, civic and fraternal clubs, and other interested groups. Any private physician may refer or bring to a convenient clinic any child or children for whom he may want examination or may want to receive consultative services.

The June clinics are:

June 3—Quincy, Blessing Hospital
June 4—Elgin, Sherman Hospital
June 4—Rock Island (Cerebral Palsy), Foss Home, 3808 - 8th Avenue
June 5—Litchfield, St. Francis Hospital
June 10—Peoria, St. Francis Hospital
June 10—East St. Louis, Christian Welfare Hospital
June 11—Hinsdale, Hinsdale Sanitarium
June 11—Alton, Alton Memorial Hospital
June 12—Elmhurst (Rheumatic Fever), Memorial Hospital of DuPage County
June 12—Springfield, St. John's Hospital
June 13—Chicago Heights (Rheumatic Fever), St. James Hospital
June 18—Chicago Heights, St. James Hospital
June 19—Rockford, St. Anthony's Hospital
June 19—Fairfield, Fairfield Memorial Hospital
June 24—Peoria, St. Francis Hospital
June 24—Effingham (Rheumatic Fever), Douglas Township Building
June 25—Springfield (Cerebral Palsy), Memorial Hospital
June 26—Normal, Brokaw Hospital
June 26—Sterling, Community General Hospital
June 27—Chicago Heights (Rheumatic Fever), St. James Hospital

In carrying on its program the Division works cooperatively with local medical societies, hospitals, the Illinois Children's Hospital-School, civic and fraternal clubs, visiting nurse associations, local social and welfare agencies, local chapters of the National Foundation for Infantile Paralysis and other interested groups.

The Division of Services for Crippled Children is the official state agency established to provide medical, surgical and corrective and other services and facilities for diagnosis, hospitalizations, and after-care for children who are crippled or who are suffering from conditions which may lead to crippling.

YOUR DEFENSE BONDS ARE BETTER THAN EVER!!!

SEVENTY SEVEN PER CENT of the holders of maturing Series E, U. S. Defense Bonds took advantage, in the past 11 months, of their option to hold them and continue to draw interest on them for another ten years.

On May 1, 1951, the Treasury Department offered Bond holders, whose Bonds were maturing, three options. First, of course, they can cash them and take their money. Second, they may continue to hold them and continue to draw interest on them for another ten years. The third provision gives the option of trading them for current income Series G Bonds upon which interest, at the rate of 2½ per cent, is collectable twice annually.

Arnold J. Rauen, State Director of the U. S. Defense Bonds Division for Illinois, reports that, both here in Illinois and nationally, many holders of maturing Bonds, who do not need ready cash at this time, are taking advantage of these options. With 3 billion 7 million dollars in "E"

Bonds maturing this year, many persons who purchased these securities will be in a position to earn additional interest on the already accumulated interest as well as on the principal of their investment.

GENERAL PRACTICE POSTGRADUATE TRAINING

The General Practice Group of the University of Tennessee has established a postgraduate clinical training program for general practitioners. This has been approved by the American Academy of General Practice for its members.

The program is designed for the general practitioner on an individual basis, according to his individual needs. One week to one month of training is offered.

Each doctor will spend morning hours in his choice of any one of the University specialty fields. This will be active work at the resident level. The afternoons will be spent in the General Practice Clinic where the medical students get active general practice experience. Evenings are utilized in the emergency room of the John Gaston Hospital which is supervised by members of the General Practice Staff.

General practitioners who would like to participate or who desire further information, may write to the General Practice Office, University of Tennessee, Memphis, Tennessee. There is no fee charged for this training.

19th ANNUAL CLINIC DAY

The Nineteenth Annual Clinic Day of St. Anthony Hospital, Rockford, Illinois was held on Wednesday May 7, 1952 in the auditorium of the Nurses Home.

The meeting started at 10:00 A.M. with Dr. Matthew J. Brunner, Assistant Professor of Dermatology, University of Illinois School of Medicine, as speaker. His subject was "Allergic Dermatoses".

Other speakers were as follows:

11:00 AM:

"The Anatomic Basis of the Clinical Use of Cortisone and ACTH, by J. F. Kuzma, M.D., Director of Laboratories, Milwaukee County Hospital, and Assistant Professor of Pathology, Marquette School of Medicine.

1:00 PM:

"Diagnostic Problems of the Gastro-Intestinal Tract", by W. D. Paul, M.D., Associate Professor of Medicine, University of Iowa Medical School.

2:00 PM:

"Surgical Treatment of Mitral Stenosis", by Ormand C. Julian, M.D., Clinical Assistant Professor of Surgery, University of Illinois School of Medicine.

3:00 PM:

"Prevention and Management of Prolonged Labor", by H. Close Hesseltine, M.D., Professor of Gynecology and Obstetrics, and Secretary of the Department, University of Chicago Medical School, and Obstetrician, Chicago Lying-In Hospital and Billings Memorial Hospital.

At Noon lunch and refreshments were served by the Sisters of the Hospital and the Ladies Auxiliary.

WORLD MEDICAL ASSOCIATION

The Sixth General Assembly of The World Medical Association will be held in Athens, Greece, October 12 to 16, 1952, and will be followed on October 17 by a meeting of the Medical Editors of the World.

About twenty-five members of the United States Committee attended the Fifth General Assembly in Stockholm, Sweden, last year. The World Medical Association hopes that many will be able to attend the Sixth General Assembly. While voting members of the Assembly are restricted to two from each national member association, you as a member of the United States Committee are entitled to attend as an Observer, and a credential card as such will be issued you by this office if you desire to attend.

It is understood that a number of members are planning a trip to Europe during the summer, and it is suggested that they plan, if possible, to remain for The World Medical Association meeting.

The Committee on Arrangements is planning an active social program, in addition to the business meetings which will include tours of ancient and modern Greece.

The program which is not yet definitely fixed will deal with questions regarding Medical Edu-

cation, Social Security, coordination with other international groups, etc. A scientific section is also being planned.

Further information relative to the program and activities will be forwarded to you later.

In order that the Greek Committee on Arrangements may have an estimate of the number of hotel rooms to reserve for individuals attending the Sixth General Assembly, we have been asked to submit an estimate of the number of United States Committee members likely to attend.

If you are interested in further details, or are planning to attend the Sixth General Assembly, will you please return to us the stub at the bottom of this page in order that we may provide the estimate that is needed by the Greek Committee on Arrangements and send you further information. This is only a tentative statement and in no way binding.

Louis H. Bauer, M.D.
Secretary-Treasurer

PLEASE PRINT

(Name)
(Address)

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

A cordial invitation is extended to all members of the Women's Auxiliary to the American Medical Association, their guests and guests of physicians attending the convention of the American Medical Association, June 8-13 to participate in all social function and attend the general sessions of the Auxiliary. Whether Auxiliary members or not, the wives of doctors will be most welcome.

Headquarters will be at Conrad Hilton Hotel. Tickets will be available at the registration desk only. Please register early and obtain your badge and program.

REGISTRATION HOURS

Sunday	12:00 M to 4 P.M.
Monday	9:00 A.M. to 4 P.M.
Tuesday	9:00 A.M. to 4 P.M.
Wednesday	9:00 A.M. to 4 P.M.
Thursday	9:00 A.M. to 4 P.M.

PRECONVENTION SCHEDULE

SUNDAY, JUNE 8

12:00 to 4 P.M. REGISTRATION—GRAND BALLROOM FOYER—Conrad Hilton Hotel

The members of the Hospitality Committee will welcome members and guests of the Auxiliary.

COMMITTEE MEETINGS

1:00 P.M. Nominating Committee—Dining Room # 4
2:30 P.M. Resolutions Committee— " #13
3:30 P.M. Revisions Committee — " #10
8:00 P.M. Finance Committee — " # 6

MONDAY, JUNE 9

Round Table Discussions—Members Invited
West Ballroom (third floor)

9:00 A.M. Program—Mrs. Alfred F. Burnside, Chairman

10:00 A.M. Legislation—Mrs. Edgar E. Quayle, Chairman

11:00 A.M. Public Relations—Mrs. Theodore E. Heinz, Chairman

2:00 P.M. Today's Health—Mrs. J. K. Avent, Chairman

Board of Directors—Lake Shore Club of Chicago

9:00 A.M. Meeting—Parlor J (second floor)
Mrs. Harold F. Wahlquist, President, presiding.

12:30 P.M. Luncheon—Old Salem Room (third floor)
Mrs. Harold F. Wahlquist, President, presiding.

3:30 P.M. to 5:30 P.M. Fashion Tea—Marshall Field's Narcissus Room
Honoring Mrs. Harold F. Wahlquist, President, and Mrs. Ralph Eusden, President-Elect. Invited guests include members of the Board of Directors, State Presidents and Presidents-Elect, wives of A.M.A. Trustees and Officers, Auxiliary officers and chairmen, and wives of State and County Medical Societies Officers (Illinois).

All wives of physicians are cordially invited. Hostesses: The Woman's Auxiliaries to the Illinois State and Chicago Medical Societies. Tickets, $1.50 (tax and gratuity included).

CONVENTION PROGRAM

TUESDAY, JUNE 10

9:00 A.M. Formal Opening Meeting—Grand Ballroom (mezzanine floor)—Mrs. Harold F. Wahlquist, President, presiding.

Invocation—Dr. Ray Freeman Jenney, Bryn Mawr Community Church

Pledge of Loyalty to the Auxiliary—Mrs. V. E. Holcombe, Past President of the National Auxiliary and President of the Southern Medical Association auxiliary.

Greetings—H. Kenneth Scatliff, M.D., President, Chicago Medical Society

Warren W. Furey, M.D., General Convention Chairman, American Medical Association.

Address of Welcome—Mrs. James M. McDonnough, Immediate Past President, Woman's Auxiliary to the Illinois State Medical Society

Response—Mrs. C. L. Sheedy, President, Woman's Auxiliary to the Minnesota State

Medical Association
Presentation of Convention Chairmen, Mrs. Henry L. Schmitz, Mrs. Warren W. Young
Introduction—Mrs. Harold F. Wahlquist, President.
Presentation of President-Elect — Mrs. Ralph Eusden
Roll Call—Mrs. J. Emerson Noll, Constitutional Secretary
Minutes of the Twenty-Eighth Annual Meeting—Mrs. J. Emerson Noll.
Convention Rules of Order—Mrs. William R. Molony, Jr.
Credentials and Registration—Mrs. Henry Christiansen
Address of the President—Mrs. Harold F. Wahlquist
Reports of the Officers.
Presentation of National Directors

12:30 P.M. *Luncheon in honor of the Past Presidents* —Boulevard Room
Tickets $3.50 (tax and gratuity included)
Mrs. Harold F. Wahlquist, President, presiding.
Guest Speaker: Dr. Laurence M. Gould, President, Carleton College, Northfield, Minnesota.

Afternoon Session

2:00 P.M. Report of the Board of Directors—Mrs. F. Wahlquist
Report of the Resolutions Committee—Mrs. Raymond M. Schulte, Chairman
Election of the Nominating Committee
State Reports
Nurse Recruitment—Miss Emily Cardew, President, Illinois State League of Nursing
Education
Reports of the Chairmen of Standing Committees
State Reports
Report of the Nominating Committee of 1952
Report of Election of 1952-53 Nominating Committee.

8:00 P.M. Opening Meeting of the American Medical Association—Palmer House
Members of the Woman's Auxiliary and guests are cordially invited.

WEDNESDAY, JUNE 11

9:00 A.M. General Session—Grand Ballroom—Mrs. Harold F. Wahlquist, presiding.
Address by the President of the American Medical Association, Dr. John W. Cline, San Francisco
Reports of Chairmen of Standing Committees
Reports of Chairmen of Special Committees

12:30 P.M. Annual Luncheon in honor of Mrs. Harold F. Wahlquist, President, and Mrs. Ralph Eusden, President-Elect, Boulevard Room
Tickets, $3.50 (tax and gratuity included)
Mrs. Frank N. Haggard, Past President, presiding
Guests of honor: Dr. John W. Cline, President, American Medical Association; Dr. Louis H. Bauer, President-elect; Dr. Dwight Murray, Chairman, Board of Trustees; Dr. George F. Lull, Secretary and General Manager; Dr. Ernest B. Howard, Assistant Secretary, Dr. J. J. Moore, Treasurer; Dr. F. F. Borzell, Speaker, House of Delegates; Dr. *James Reuling*, Vice Speaker; Dr. Austin Smith, Editor; *Dr. Joseph Lawrence, Director*, A.M.A. Washington office; and the members of the *Advisory Council of the American* Medical Association to the Woman's Auxiliary.

Afternoon Session

3:00 P.M. State Reports
Report of Central Office—Miss Margaret Wolfe, Executive Secretary.
"Our Thirtieth Anniversary" Mrs. Jesse D. Hamer, Historian

THURSDAY, JUNE 12

9:00 A.M. General Session, Grand Ballroom
Election of Officers
Installation of Officers—Mrs. Arthur A. Herold
Presentation of President's Pin—Mrs. David W. Thomas
Presentation of Gavel
Inaugural Address—Mrs. Ralph Eusden

Afternoon Session

2:00 P.M. Meeting of Board of Directors
Presiding—Mrs. Ralph Eusden

7:00 P.M. Annual Dinner of the Woman's Auxiliary to the American Medical Association for members, husbands and guests, CRYSTAL BALLROOM, BLACKSTONE HOTEL.
Tickets, $5.75 (tax and gratuity included).
Presiding—Mrs. Henry L. Schmitz

9:00 P.M. Reception and Ball in honor of the President of the American Medical Association, Palmer House.

FRIDAY, JUNE 13

9:30 A.M. Conference of National Officers, Directors, National Chairmen of Standing Committees and State Presidents and Presidents-Elect —South Ballroom
Mrs. Ralph Eusden, presiding.

ORIGINAL ARTICLES

So-Called Pulmonary Adenomatosis of the Lungs

Robert S. Tillett, M.D. and Edwin F. Hirsch, M.D.
Chicago

Various terms have been given to multicentric and diffuse growths of cancerous tissues in the lungs whose origin could not be traced to a primary tumor of a bronchus or other structure. In most of the reports the tumor tissues were confined to one or both lungs, sometimes with metastases in the parabronchial lymph nodes. No primary growth has been found in any other viscera. These neoplasms have been called, cystic papillary lung tumor (Lohlein), pulmonary adenomatosis (Bonne), mucous epithelial hyperplasia of the lung (Taft and Nickerson), alveolar cell tumor of the lung (Neubuerger and Geever), diffuse primary alveolar carcinoma of the lung (Simon), multicentric alveolar cell carcinoma, carcinomatoides alveogenica multicentrica, diffuse epithelial hyperplasia of the lungs and papillary gelatinous adenocarcinoma of the lung. Recently the terms, pulmonary adenomatosis and primary alveolar cell tumor of the lungs have been used more frequently, reflecting a more general belief that these tumors originate from the walls of the alveolar septums.

The number of these tumors now recorded is probably more than ninety. Our report adds three more. Swan mentioned the following criteria in the diagnosis of this neoplasm; 1) proliferation of tall columnar mucous cells producing a lining or involvement of the alveoli, and 2) absence of a primary tumor of the bronchial tree or other part of the body. Mucin production is commonly but not always present. Some authors attempt to distinguish benign and malignant forms. Accordingly, Laipply reserved the term pulmonary adenomatosis for the noncancerous form and applied the term alveolar cell carcinoma to the cancerous. He suggested

From the Henry Baird Favill Laboratory, St. Luke's Hospital, Chicago, Illinois. Aided by the Winfield Peck Memorial Fund.

that pulmonary adenomatosis and alveolar cell carcinoma are related. Excellent reviews have been published by Neubuerger and Geever (1942) and more recently by Swan (1949) and by McCoy (1951).

Gross features.—Two forms of the disease are recognized: 1) the multiple nodular form and 2) the diffuse form. Among fifty-six cases reported in the literature, the nodular and diffuse forms occurred about equally, a smaller number being of the mixed variety. Forty-eight of these fifty-six were bilateral and only eight were in one lung. There is usually a complete or partial obliterative fibrous pleuritis and a collection of clear fluid in the pleural spaces. The lungs are voluminous and retain their contour. The visceral pleura in the nodular or mixed forms often is studded with grey nodules. Surfaces made by cutting the lung with the nodular variety have many tumor nodules ranging from minute to extensive coalescing masses, and resembling the lung with miliary tuberculosis. The intervening lung tissue is grey. The diffuse form is a more homogeneous solidification of a lung or portion thereof but with some nodularity at the periphery of the neoplastic tissues. In this form the lung may resemble the grey stage of lobar pneumonia.

Metastases in all forms occur in about fifty percent of the cases. Half of the metastases are in the bronchial lymph nodes alone and half are in remote viscera. The bronchi have been reported as free from an intrinsic tumor.

Microscopic structure.—Histologically, the nodular and diffuse forms are alike. Tall columnar or cuboidal cells, often mucus secreting, line the alveoli. Swan suggested the descriptive phrase, investment of the alveoli to indicate the histologic appearance, thus avoiding implication as to origin from the lining cells. Variations in structure are from the simple investment of the alveoli to the more complicated epithelial proliferations with papillary projections into the alveolar lumens, giant cell-like masses, and intra-alveolar masses of neoplastic cells. The latter may result from desquamation of tumor cells from the alveolar walls or may be projections of tumor from adjacent alveoli. Some of the alveolar walls are penetrated and large coalescent tumor masses form, but generally the alveolar septums are spared.

In the small lesions the cylindrical or cuboidal cells investing the alveoli have a marked regularity of structure and arrangement. The cytoplasm is slightly eosinophilic and varying quantities of mucinous material may be in the cells and in the alveolar spaces. The vesicular nuclei are usually located near the base of the cells. Cells in mitosis are rare. In some tumors the cuboidal or columnar cells are more proliferative and form papillary projections and spurs. Commonly there are gradations in the same lung from the simple and histologically so-called benign form to the obviously cancerous tissues. In most cases, no involvement of the bronchial mucosa has been found, but when observed, the alveolar proliferation appeared to be independent. Occasionally, bronchial erosion by the tumor tissue has occurred from without. Metastases are similar to the primary tumor but may resemble glandular carcinoma.

Historical.—The first report of the bilateral, nodular form was by Malassez in 1876. This has served as the classic description of the so-called alveolar cell tumor of the lung. The first diffuse form was reported by Musser in 1903. Since these reports, fifty-seven cases of the diffuse or mixed type and twenty-nine of the nodular variety have been described. Of these, forty were in males and forty-five were in females. Among a group of seventy-nine cases, forty-four or fifty-six percent had metastases, either regional or distant. In the remaining thirty-five, or forty-four percent, no metastases were found.

Certain reports mention distinctive variations which seem significant such as: 1) The production of mucin, sometimes in copious quantities, described in twenty-two cases; 2) blood vessel invasion by tumor tissues, mentioned in the two cases described by Herbut and observed in one case of our report; and 3) the presence of cilia at the free border of the cells lining the alveoli in the case described by Laipply and Fisher. All of these features, oppose the view that the tumors have originated in the lining cells of the alveoli. The tumor reported by Herbut is frankly a metastatic tumor of the lung but resembles the histologic structure of an alveolar cell tumor. The site of the primary growth was the gallbladder. In six other descriptions (Pepere, Paul and Ritchie, Richardson, Bonne, Ikeda) the authors found that the lung tumors probably had originated in the wall of a bronchus or bronchiole. Others, even after diligent search,

have failed to locate a primary lesion of the bronchus or bronchioles.

ETIOLOGY.—Age is not a factor except that perhaps this tumor occurs in younger age groups than tumors known to be of bronchogenic origin. Most cases have fallen into the usual age groups to be expected for lung carcinomas. The youngest apparently was a seventeen year old female (Geever, Carter, Neubuerger and Schmidt). The oldest patient was an 89 year old female (Hedinger).

There is a more striking difference between tumors of known bronchogenic origin and tumors of the so-called alveolar cell type when sex distribution is considered. Among twenty-three of twenty-five cases reported in a survey by Neubuerger and Geever, eleven occurred in females and twelve in males. Among eighty-two of eighty-five cases in the literature, thirty-seven were in males and forty-five in females. The three cases included in our report were in males. Occupation is not a factor. Although some have considered pulmonary adenomatosis related to jaagziekte in sheep, no excessive morbidity among shepherds has been observed.

Irritants, such as virus, bacterial, chemical or physical agents have no greater etiologic relationship to alveolar cell tumors than to tumors of known bronchogenic origin. Definite changes in the alveolar walls occur in response to many of the same factors which have been demonstrated to be potentially carcinogenic. These predisposing factors include: 1) chronic irritation, especially a chronic inflammation (in man), 2) certain chemical compounds and elements (in mice), 3) certain viruses (in sheep), and 4) protozoa and nematodes. Heredity and local tissue susceptibility seem to predispose in mice, especially when coupled with the carcinogenic agents.

Jaagziekte.—The role of this endemic, apparently infectious, epizootic disease which occurs mainly in sheep has been the subject of considerable controversy. The remarkable similarity of the histopathological structure of the ovine disease to the benign alveolar cell tumors has been mentioned by Sims, Neubuerger, Boone, Wood and Pierson, Bell, and others. Reported chiefly from South Africa, France, Great Britain, Iceland, Germany, the United States and Peru, jaagziekte apparently is not an ordinary type of infectious disease but has been reproduced by the use of noxious plants and micro-organisms as well as nematodes, which may be predisposing agents. Cowdry considered this disease to be caused by a virus. Dungal reproduced jaagziekte in sheep by respiratory contact, but did not find the disease in shepherds in the endemic regions. Apparently, malignant lesions with metastases have been described in the ovine disease (Aynaud cited by Sims). The nearly identical gross and microscopic appearance of jaagziekte and the benign form of alveolar cell tumors has been the basis for thinking that both diseases have a common etiology or that the two processes are a common tissue response to fundamentally different stimuli, infectious in the case of the ovine disease and neoplastic in the case of the human. However, there is evidence that investment of alveoli also occurs in a wide variety of chronic pulmonary conditions, such as pneumonia, tuberculosis, atelectasis, psittacosis and chronic passive hyperemia. In addition, at least in certain of the cases of both the ovine disease (Cowdry) and the human disease (Bonne), continuation of the bronchial epithelium with the investing cells of the alveoli has been found. These authors suggest that given enough serial sections, perhaps more or all cases would reveal a similar continuous process between the pulmonary alveolar tumors and the bronchial epithelium.

Symptoms.—The clinical symptoms are nonspecific. There is a slight productive cough in the early phases, later becoming profusely productive of a clear, frothy sputum, occasionally thickened with blood, or with frank hemoptysis. Finally, there is dyspnea, cyanosis, weight loss and cachexia. Chest pain is common. Most patients die about a year after the onset.

Roentgen shadows were analyzed in thirty-three cases by Weir. These were non-specific and included diffuse and miliary involvements of large portions of the lung, usually bilaterally, without hilar enlargement. A few had pleural fluid or cavitation of the lung. The demonstration of small masses of tumor cells in the sputum or bronchial secretions as described by Hatfield and Hill, and others is an important aid in diagnosis.

CASE REPORTS:

The following three cases occurred at St. Luke's Hospital since 1946. The one first mentioned was diagnosed by necropsy, the other two were found in surgical tissues.

The dissemination of the tumor nodules in both lungs corresponded in anatomic distribution to a hematogeneous spread of tumor tissue emboli analogous to the conditions observed with a miliary tuberculosis of the lungs. Dismissing as highly improbable a multicentric origin of tumor tissues in each of both lungs, the study of the lungs was then directed to see if some small cryptic carcinoma could be found in bronchus tissues so related to the main pulmonary artery and with blood vessel invasion, which would permit the embolic spread of tumor tissues into both lungs. Accordingly, sections of the left main bronchus and the adjacent portion of the pulmonary artery were prepared. In these was found a growth of carcinoma cells in epithelial crypts (Figure 3) of the bronchial lining associated with invasion of the blood vessel channels (Figure 4). Although a direct penetration of the wall of the pulmonary artery at this level was not demonstrated, definite evidence of invasion of arterial and blood channels was established in these tissues. Accordingly the presence of cancerous tissues with the morphologic structure of a small cryptic primary carcinoma of the left main bronchus and invasion of the blood channels by such carcinoma tissues was established. The location of this tumor afforded opportunity for embolic hematogeneous dissemination of carcinoma tissues into both lungs.

CASE 2.—A white male aged 57 years, a patient of Doctor W. Van Hazel, was well until three to four months prior to admission when he became dysponeic. About a month later he developed a cough when lying down and productive daily of about a tablespoonful of brown sputum. About three years before he had had a pneumonia which cleared uneventfully. A chest x-ray revealed atelectasis of the right upper lobe and some involvement of the middle lobe.

The erythrocytes were 4,900,000 and the leucocytes 6,100 per cu. mm.; the hemoglobin was 14.8 grams percent. On December 11, 1948 a right pneumonectomy was performed. There was no clinical evidence of extra-pulmonary metastases.

The pyriform right lung weighed 780 grams. The upper lobe was firmly consolidated. The lining of the bronchi was hyperemic and in longitudinal folds. Surfaces made by cutting the upper lobe and the upper part of the middle lobe were diffusely infiltrated by firm,

Histologically the firm tissues had interlacing or intercommunicating folds of papillary tissues with crevices containing granular precipitates and exudates of

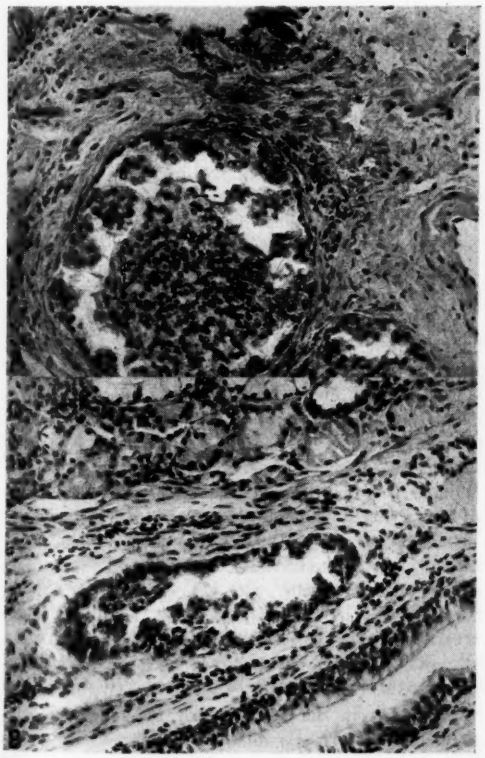

Figure 3. Photomicrographs illustrating in "A" and in "B" carcinoma cell replacement of the epithelium of the crypts in the left main bronchus of the lungs. In the lower right corner of "B" is a crypt with the usual pseudostratified columnar lining epithelium.

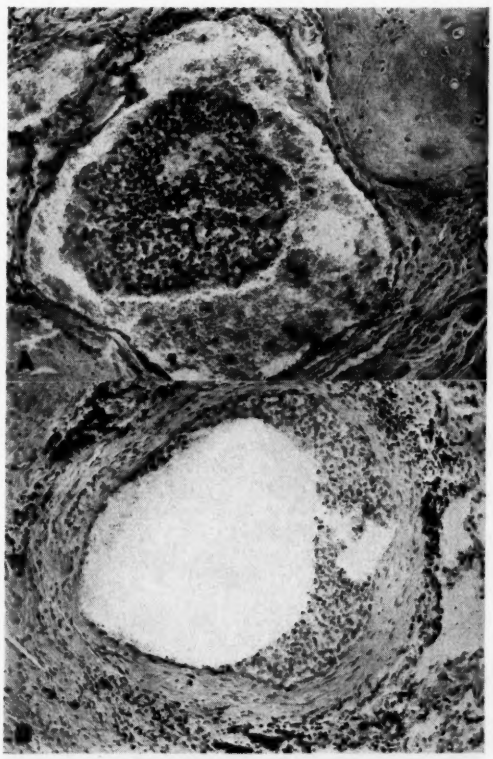

Figure 4. Photomicrographs illustrating in "A" the growth of carcinoma tissues in the lumen of a dilated blood channel of the left main bronchus and in "B" the extension of tumor tissues along the intimal edge of a branch of the pulmonary artery in Case 1. This vessel was alongside of the terminal portion of the trunk of the pulmonary artery.

Figure 1. Photograph illustrating the multiple nodules of carcinoma tissues on surfaces made by cutting the lungs (Case 1).

Figure 2. Photomicrographs illustrating in "A" the diffuse growth of the tumor cells and in "B" the investment of the alveolar walls by tumor cells in the nodules of the lung of Case 1.

CASE 1: A 57 year old white male was admitted to the service of Doctor Paul Holinger at St. Luke's Hospital on November 11, 1950. About six weeks prior to admission, he had a cold with a moderately severe cough, productive of a yellow green phlegm. He was given aureomycin and streptomycin. Several days before admission to the hospital he became dyspneic and had a fever of 101°F. He had had a chronic, nonproductive cough for 15 years, worse the past 5 months, and anorexia of 4 weeks duration. There was a weight loss of ten pounds. The chest x-ray revealed a widespread infiltration of the lung fields with a maximum involvement of the right upper lobe.

The erythrocytes were 4,450,000 and the leucocytes were 21,000 per cu. mm.; the hemoglobin was 14.8 grams percent. The differential count was 5 lymphocytes, 2 monocytes, 78 polymorphonuclear leuocytes and 15 bands per 100 cells counted. The erythrocyte sedimentation rate was 25 mms. in 60 minutes. The urine had 15 mgms. percent albumin and many hyaline casts. He rapidly became worse and died on November 16, 1950, the fifth day in the hospital. The essential portions of the necropsy are in the following statements.

There were about 100 cc. of straw colored fluid in each pleural space. The lining of the trachea and the main bronchi was hemorrhagic and the lumens had large amounts of purulent and hemorrhagic secretion. The unopened, markedly edematous, firm and nodular right and left lungs weighed 1500 grams and 903 grams respectively. The lining of the bronchioles opened to their finer divisions was hyperemic and their lumens had blood tinged secretion. Careful examination revealed no gross primary tumor in them. Broad surfaces made by cutting both lungs were studded with myraids of grey nodules ranging from 1 to 5 mms. diameter, and similar to tubercles (Figure 1).

Careful examination of the entire trunk, head and neck failed to disclose tumor tissues elsewhere.

Histologically, the thickened alveolar walls in the nodules were invested by columnar or cuboidal cells with slightly acidophilic cytoplasm and dark, vesicular nuclei. Some of the investing cells were in papillae on delicate fibrous stalks which projected into the lumens of the alveoli, and in places almost completely filled them (Figure 2). Among these cells were a few in mitosis. Many alveolar lumens had delicate strands of mucinous precipitates in considerable quantities. In portions of the lung tissue, the neoplasm had grown through the septums and, coalescing, formed large masses of tumor cells. But the pattern of investment of the alveoli by columnar or cuboidal cells with preservation of the basic alveolar architecture persisted. Occasional isolated alveoli were lined by the cuboidal tumor cells.

Tissues from the periphery of the lung had small muscular blood vessels with lumens filled by blood cells and small masses of tumor cells. The terminal bronchi had the usual fibrous and muscular walls, and the lumens of some containing tumor masses. Sections from a tracheobronchial lymph node had small metastases in tubules, lined by cuboidal or columnar cells. Mitotic figures were not seen.

Figure 5. Photomicrograph illustrating the structure of the carcinoma tissues in the lung of Case 3. Note the tall goblet cell structure of the growth, and the tubular and papillary arrangement of the cells.

mononuclear phagocytes and leucocytes. At the margin of the tumor growth, where some of the basic lung parenchyma remained, the alveolar spaces contained granular precipitates and along the septal walls masses of similar papillary epithelial tissues investing the alveoli. Masses of these atypical epithelial cells were also in the blood vessels.

The diagnosis was extensive papillary carcinoma (so-called pulmonary adenomatosis) of the lung.

CASE 3.—A white male pipefitter aged 52 years was admitted to the service of Doctor Paul Holinger at St. Luke's Hospital for the first time on September 27, 1946. Two years prior to admission he had pleurisy of the left chest. One year later there was recurrence of this and he stated when admitted to the hospital that he had never fully recovered from the second illness. During the month prior to admission, the chest pain had been almost constant and there was gradually increasing shortness of breath for 18 months. There was an occasional cough, productive of copious white, frothy sputum which, for one week had been streaked with blood. The past history and system review were otherwise essentially negative.

A bronchoscopic examination was made and a biopsy was taken from the left lung. This contained small masses of atelectatic lung tissue in which were several small masses of tall columnar cells, some seeming to be directly in the alveolar tissues (Figure 5). Roentgen studies of the gastro-intestinal tract were negative. The erythrocyte count was 3,910,000, the leucocytes 8,900 per cu. mm. and the hemoglobin was 11.8 grams percent. On October 14, 1946 a left pneumonectomy was done. The left lung weighed 694 grams. There were no remarkable changes in the lining of the bronchi to the upper or lower lobes. The lung tissues of the left lower lobe were markedly edematous, hyperemic and had foci of atelectasis and consolidation. Soft, friable, grey-yellow nodules were scattered throughout the lower lobe but more marked in the dependent portions over the diaphragmatic surface. No connection of these nodules with any bronchus was demonstrated.

Sections from various levels of the lung had masses of glandular epithelium whose cells was mainly of the goblet variety. Some were within the alveolar spaces, others were continuations from the walls. The columnar cells formed acini and duct-like structures with protruding papillae (Figure 5). The multiple focal distribution in widely separated portions of the lung of these glandular epithelial tissues in both small and large masses but especially those of small dimension suggest an embolic dissemination of the tumor tissues, or an aspiration of tumor cell masses with implantation within the lung itself.

COMMENT

In recent publications, discussions about the histogenesis and pathogenesis of pulmonary adenomatosis or alveolar cell tumor of the lung have centered about the question of whether or not the tumor cells investing the alveoli have their origin in the alveolus. Various authors have stated that so long as proof of a bronchial epithelial origin is lacking the alveoli contain cells capable of becoming canceous. The question is then whether these cells arise from mesenchymal septal cells as prosposed by Neubuerger and Geever, or from alveolar epithelial cells through neoplastic processes. A few authors have postulated an origin from cells lining the finer bronchioles.

Miller observed in pathological conditions with serous exudates from the alveolar wall that cells lining the alveoli become visible. Sweany stated that in numerous pulmonary diseases of man, layers of cells lining the alveoli are seen. In early fetal life, the alveoli are lined by cells in a continuous layer. The possible role of the epizootic ovine disease jaagziekte has been discussed. Experimental studies in animals, chiefly in mice (Furth and Furth, Grady and Stewart and others) have demonstrated that papillary tumors arise from the alveoli in mice.

While some authors have concluded that the cells lining the alveoli in jaagziekte arise from the walls of the alveoli, Cowdry observed that by making enough serial sections, the cells investing the alveoli of the ovine lung could be found

to be continuous with cells of the bronchial epithelium. In man, Herbut observed one case of early alveolar cell tumor whose origin was definitely from a bronchiole, and another, a metastasis from a carcinoma of the gallbladder, which was indistinguishable from a primary alveolar cell tumor of the lung. The latter author reviewed 125 metastatic carcinomas to the lung and 100 primary carcinomas of bronchogenic origin and found that, in each group when the primary tumor was adenocarcinoma, the distribution in the lung was alveolar. Herbut thus concluded that all tumors presenting an alveolar cell arrangement in the lungs are secondary to recognized or unrecognized foci in other organs or, if primary in the lung, that they arise from the basal cells of the bronchi and bronchioles and that there is no justification for assuming that they arise from the septal cells. He had also observed investment of alveolar walls by transitional or squamous cells, extending from the bronchial mucosa, especially the basal cells, in such conditions as bronchiectasis, tuberculosis, pneumonia and lipoid pneumonia. Cheek and Murihead reported two cases of bronchial adenoma in which the histologic structure at the advancing edge of the tumor was that of an alveolar cell growth. One of the cases was locally invasive and the appearance suggested origin from peribronchial glands.

In the three cases mentioned in this report, both the gross and microscopic findings agree with the reports of alveolar cell tumors of the lung. The lungs of Case 1 had disseminated nodules of carcinoma with the papillary structure reported for alveolar cell carcinomas. The tumor cells produced mucin, a feature suggesting bronchial cell origin of the carcinoma. Mucinous material was observed also in the tissues of the other two tumors. However, the structure of the tumor cells in each of the three carcinomas, although similar, was distinctive. Thus the cells in the first carcinoma were small and cuboidal, those of the third were tall mucinous columnar, while those of the second were intermediate. The surgical material (Case 2 and 3) did not afford an opportunity for a search for a primary focus in the lungs or elsewhere. Both patients died outside of the hospital and no necropsy was made. The tissues of the autopsy material (Case 1) however, permitted examination of the left main bronchus at a site where a primary focus with invasion of the pulmonary artery could spread tumor emboli into both lungs. The left main bronchus where it was in direct apposition with the distal portion of the pulmonary artery was found by histological examination to have a small cryptic carcinoma although no tumor was visible grossly. The carcinoma tissues invaded dilated blood sinuses in the wall of the main bronchus and had grown along the intima of large arterial branches. By extension the tumor cells could reach the lumen of the pulmonary artery.

SUMMARY

Current views regarding the nature, incidence and pathology of the disseminated nodular and the diffuse so-called alveolar cell tumors of the lung are discussed and three additional tumors are described. One of these was disclosed by necropsy and provided an opportunity to study the main bronchi of the lungs for the site of a small cryptic carcinoma. Histologic examinations of the lining of the left main bronchus demonstrated carcinoma tissues arising in mucosal crypts. The tumor tissues extended into blood channels and into arterial branches. These blood vessels invaded by tumor tissues were in close proximity with the distal main portion of the pulmonary artery. An extension into the lumen of this vessel would afford a nidus from which tumor tissue emboli could be swept into both lungs. Accordingly, this evidence provides a basis for thinking that the disseminated nodular form of this carcinoma disease of the lungs is an embolic spread of carcinoma tissues, through the pulmonary circulation and that the primary focus of the tumor, if not demonstrated elsewhere, should be sought in a cryptic carcinoma of a main bronchus with invasion of the blood vessels. When both lungs are involved the anatomic relation of the left main bronchus to the pulmonary artery affords opportunity for the spread of a cryptic bronchial carcinoma into the artery, and for the embolic spread of carcinoma tissues through the pulmonary artery circulation into both lungs. The aspiration spread of tumor tissues within the lungs may be another factor in the intrapulmonic extension of the carcinoma.

Our concepts of the origin of bronchogenic carcinomas of the lung need to include not only growths from the pseudostratified lining cells of bronchioles, but also from the lining cells of

excretory ducts and the cells of the associated acinar elements of the main bronchi. Mucus secreting cells are abundant in these tissues. The range in morphology of atypical epithelial cells arising from such structures may well cover the differences in cell morphology observed in the various so-called alveolar cell carcinomas of the lung.

The concept of a multicentric origin of the nodular form of the so-called alveolar cell tumor of the lungs should be discarded.

BIBLIOGRAPHY

Arkin, A. and Wagner, D. H., Primary Carcinoma of the Lung J. A. M. A. **106**: 587, 1936.

Bell, E. T., Hyperplasia of the Pulmonary Alveolar Epithelium in Disease. Am. J. Path., **19**: 901, 1943.

Boone, C., Morphological Resemblance of Pulmonary Adenomatosis (Jaagsiekte) in Sheep and Certain Cases of Cancer of the Lung in Man. Am. J. Cancer, **35**: 491, 1939.

Bubis, S. and Erwin, J. H., Pulmonary Adenomatosis. Am. J. Med., **7**: 336, 1949.

Casilli, A. R. and White, H. J., Rare Forms of Primary Malignant Lung Tumors. Am. J. Clin. Path. **10**: 623, 1940.

Cheek, J. H. and Muirhead, E. E., Bronchial Adenoma Producing an 'Alveolar Cell Carcinoma' Pattern. Arch. Path. **46**: 529, 1948.

Cowdry, E. V., Studies on the Etiology of Jaagziekte. J. Exp. Med., **42**: 323, 1925.

Davis, M. W. and Simon, T. R., Alveolar Cell Tumor of the Lung. Am. Rev. Tuberc., **62**: 594, 1950.

Delarue, N. C. and Graham, E. G., Alveolar Cell Carcinoma of the Lung (Pulmonary Adenomatosis, Jaagziekte?). J. Thoracic Surg., **18**: 237, 1949.

Dungal, N. in Proc. Royal Soc. Med., **31**: 497, 1938, quoted by Swan, L. L.

Editorial, Alveolar Cell Tumor of the Lung. J. A. M. A., **144**: 1567, 1950.

Freedman, B., Pulmonary Adenomatosis. Report of a Case. Am. Rev. Tuberc., **60**: 258, 1949.

Geever, E. F., Carter, H. R., Neubuerger, K. T., Schmidt, E. A., Roentgenologic and Pathologic Aspects of Pulmonary Tumors Probably Alveolar in Origin. Radiology, **44**: 319, 1945.

Good, C. A., McDonald, J. R., Clagett, O. T., Griffith, E. R., Alveolar Cell Tumors of the Lung. Am. J. Roentgenol. **64**: 1, 1950.

Grady, H. G. and Stewart, H. L. Histiogenesis of Induced Pulmonary Tumors in Strain A Mice. Am. J. Path., **16**: 417, 1940.

Hatfield, W. H., and Hill, J. E., Pulmonary Adenomatosis with a New Laboratory Finding. Am. J. Roentgenol. **62**: 525, 1949.

Hedinger, E. in Schweiz. Med. Wchnschr., **53**: 165, 1923 quoted by Neubuerger, K. T. and Geever, E.

Herbut, P. A., Bronchiolar Origin of 'Alveolar Cell Tumors' of the Lung. Am. J. Path., **20**: 911, 1944.

Herbut, P. A., Alveolar Cell Tumor of the Lung, Further evidence of its bronchiolar origin. Arch. Path. **41**: 175, 1946.

Ikeda, K., Pathology of Oil Aspiration Pneumonia. Am. J. Clin. Path. **5**: 89, 1935.

Ikeda, K., Alveolar Cell Carcinoma of the Lung. Am. J. Clin. Path., **15**: 50, 1945.

Laipply, T. C. and Fisher, C. I., Primary Alveolar Cell Tumors of the Lung. Arch. of Path. **48**: 107, 1949.

McCoy, H. I., Alveolar Cell Carcinoma of the Lung. Ann. Int. Med., **34**: 968, 1951.

Miller, W. S., The Lung, C. C. Thomas, Pub., 1947 Ed. 2.

Moyer, J. H., Pulmonary Alveolar Adenomatosis. Am. Rev. Tuberc., **61**: 131, 1950.

Neubuerger, K. T. and Geever, E. F., Alveolar Cell Tumor of the Human Lung. Arch. Path. **33**: 551, 1942.

Osserman, K. E. and Neuhof, H., Mucocellular Papillary Adenocarcinoma of the Lung and Lobectomy. J. Thoracic Surg., **15**: 272, 1946.

Paul, L. W. and Ritchie, G., Pulmonary Adenomatosis. Radiology, **47**: 334, 1946.

Pepere, A. in Centralbl. f. allg. Path. **15**: 948, 1904, quoted by Neubuerger, K. T. and Geever, E.

Richardson, G. O., Adenomatosis of the Human Lung. J. Path. and Bact., **51**: 297, 1940.

Simon, M. A., Hamartomas of the Lung and So-Called 'Pulmonary Adenomatosis'. Am. J. M. Sci. **216**: 333, 1948.

Simonds, J. P. and Curtis, J. S., Lesions Induced in the Lungs by Intravenous Injection of Tar. Arch. Path., **19**: 287, 1935.

Sims, J. L., Multiple Bilaterial Pulmonary Adenomatosis in Man. Arch. Int. Med., **71**: 403, 1943.

Slye, M., Holmes, H. F., Wells, H. G., The Primary Spontaneous Tumors of the Lungs in Mice. J. Med. Research, **30**: 417-,1914.

Smith, L. W. and Gault, E. S., Essentials of Pathology, Ed. 2 Pub. by Appleton Co., N. Y., 1942.

Swan, L. L., Pulmonary Adenomatosis of Man: A Review of the Literature and Report of 9 Cases. Arch. of Path. **47**: 517, 1949.

Sweany, H. C., So-Called Alveolar Cell Cancer of the Lung. Arch. of Path., **19**: 203, 1935.

Weir, A. B., Pulmonary Adenomatosis: A Clinical Review and Report of 3 Cases. Arch. of Int. Med., **85**: 806, 1950.

Wood, D. A. and Pierson, P. H., Pulmonary Alveolar Adenomatosis In Man. Am. Rev. Tuberc., **51**: 205, 1945.

Pudendal Nerve Block in Private Obstetric Practice

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Although pudendal nerve block has been in use for many years since its description by Ilmer[1] in 1910, its potentialities in private obstetric practice have not been full appreciated and utilized.

As with the other types of local anesthesia, pudendal nerve block is considered among the safest procedures for both mother and newborn infant.[2,3] Its preference in obstetrics is based on the following:

1. It is easily administered.
2. There is extremely low incidence of pulmonary complications such as aspiration pneumonia, atelectasis, aggravation of upper respiratory infections and laryngospasm.
3. Its administration does not require an additional anesthetist, whose services are not always available in some hospitals or in the home.
4. The patient cooperates during delivery since there is no impairment of use of the abdominal musculature.
5. Delivery is better controlled, with reduced incidence of operative deliveries.
6. It has no effect on the frequency and intensity of uterine contractions; hence the progress of the second stage of labor is not retarded.
7. Good uterine tone is maintained in the third stage of labor with reduced blood loss.
8. The mother retains a feeling of well-being, is able to ingest fluids and food immediately after delivery.
9. There is excellent perineal relaxation with less tissue trauma during delivery and better healing of the episiotomy.
10. Paralytic ileus does not occur.
11. There is no postpartum shock attributable to the anesthetic.
12. There is less fetal asphyxia (secondary either to decreased blood pressure, as sometimes occurs with spinal or caudal anesthesia, or to decreased oxygen supply and anesthetic effect, as occurs with general anesthesia.)
13. It is ideally suited to home deliveries.

Pudendal nerve block is particularly recommended in complicated obstetric deliveries because if its efficacy and safety. It has been recommended in the presence of cardiac disease since it does not aggravate cardiac insufficiency. It has long been used for patients with pulmonary disease such as asthma, pneumonia, bronchitis, upper respiratory infections, bronchiectasis and tuberculosis. Patients with diabetes, thyrotoxicosis, eclampsia and other severe toxemias may be safely delivered with minimal pain with this anesthesia. Premature delivery is an important indication for the use of pudendal nerve block because the underdeveloped central nervous system of the premature fetus is thus spared the depressant influence of inhalation anesthetics. We feel that the pudendal nerve block is indicated in patients having a history of previous severe postpartum hemorrhage.

If pudendal nerve block is the preferable form of anesthesia in the foregoing complications, it should be the ideal anesthetic in the normal obstetric delivery.

Local anesthesia in obstetrics is not recommended in such complicated operative deliveries as version and extraction or in the presence of threatened uterine rupture because of the necessity for complete uterine relaxation. For psychic reasons, it is not the anesthetic of choice in cases of illegitimacy or deliveries of stillbirths. The presence of infection at the site of injection also prevents its use, but we have never encountered this condition.

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An occasional complication in local anesthesia is a reaction to procaine. Such reactions are usually due to accidental intravenous injection, to the use of an excessive amount of the anesthetic or to sensitivity to the drug. The reactions are usually transitory and without residue. Three such reactions have been encountered in a series of 474 cases reported here.

The reluctance toward more general adoption of pudendal nerve block anesthesia is apparently attributable to the belief that patients require more extensive anesthesia for complete pain relief. The laity, particularly in recent years, have clamored for complete relief from the pain of childbirth, and the medical profession has obliged by utilization of forms of anesthesia and analgesia hazardous to the welfare of both the newborn and the mother. Proper application of the pudendal nerve block produces excellent anesthesia without exposing the parturient and the newborn to dangers which sometimes accompany other forms of anesthesia.

The technic of pudendal nerve block is not difficult to master. Postgraduate students (most of whom are general practitioners) have turned to their respective hospitals and successfully used the nerve block after observing its application on several occasions.

With any form of analgesia or anesthesia, reassurance and confidence of the parturient are most desirable and particularly when local anesthesia is used. Therefore, with pudendal nerve block, mental preparation of the patient for labor is inaugurated at the time of her first antepartum visit. It is enhanced at each subsequent visit by careful examination, guidance and reassurance. The patient is kept informed of her progress during labor and is notified as to events to be expected.

Analgesic medication is administered at any time during the first stage of labor, depending on the needs of the individual patient. Morphine sulfate, in doses of 1/12 to 1/6 gr., is preferred. It is the most effective drug for pain relief and in addition produces a sense of composure and well-being greater than that obtained with other commonly used analgesics. Demerol may be used in doses of 50 to 100 mg. to supplement the morphine sulfate.

Analgesics may be administered either intramuscularly or intravenously, depending on the rapidity of pain relief desired. Intravenous

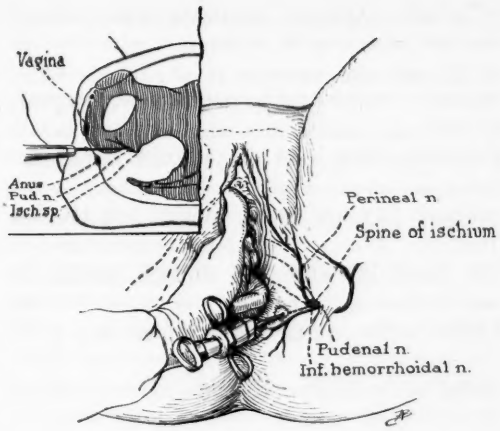

Figure 1

administration has been found particularly desirable when delivery is anticipated before the maximal effect from intramuscular administration can be obtained. Intravenous administration is carried out slowly to prevent nausea and vomiting.

The combined use of analgesic medication plus a general anesthetic depresses respiration in the newborn. As general anesthesia, for the most part, is eliminated when pudendal nerve block is used, a greater quantity of analgesia can be administered during the first and second stages of labor, without fear of fetal anoxia. Further to combat the possibility of fetal anoxia, 100 per cent oxygen is given to the mother five to ten minutes before delivery. This results in the transmission of oxygen to the fetus via the blood stream of the mother.[4]

Scopolamine is used infrequently. The amnesic effect of scopolamine is undesirable in the parturient because the valuable psychic effect of childbirth is depressed. Furthermore, it interferes with the cooperation of the patient and thereby increases the gravity of operative deliveries. Scopolamine may produce excitability which prevents the use of local anesthesia.

The desirable time for perineal anesthesia is immediately before delivery, yet sufficiently early to prevent the pain of perineal distention. If delivery is imminent, nerve block is performed. The amniotic sac, if intact, is then artificially ruptured and the patient instructed to "bear down." The attending physician may aid delivery in the usual manner.

Technic.—Adequate anesthesia of the perineal skin and musculature is obtained with the use of 0.5 per cent procaine in physiologic saline solution. Intradermal wheals are made bilaterally halfway between the anus and the ischial tuberosity, using a 25 gauge needle. With the index and middle fingers of the left hand in the vagina, a 19 gauge needle, 5 inches long (Becton Dickinson & Co., S4621 NR) is introduced at the site of the wheal and directed toward the ischial spine. The needle tip is palpated by the fingers in the vagina and is guided to a point just posterior to the spine of the ischium. Anesthesia of the internal pudendal nerve is secured by infiltrating approximately 15 to 20 cc. of 0.5 per cent procaine solution in this area, keeping the needle in constant motion during the injection to prevent intravenous injection and to assure distribution of the procaine solution. The needle is withdrawn until the tip lies beneath the skin and is then directed laterally to the ischial tuberosity. The posterior femoral cutaneous nerve is blocked by injecting 15 to 20 cc. of 0.5 per cent procaine solution in a fanlike pattern immediately beneath the ischial tuberosity. The needle is again withdrawn as before and directed subcutaneously upward to the pubis lateral to the labia majora where approximately 15 cc. of procaine solution is deposited while the needle is slowly withdrawn, thus blocking the anterior labial branches of the ilioinguinal nerve.

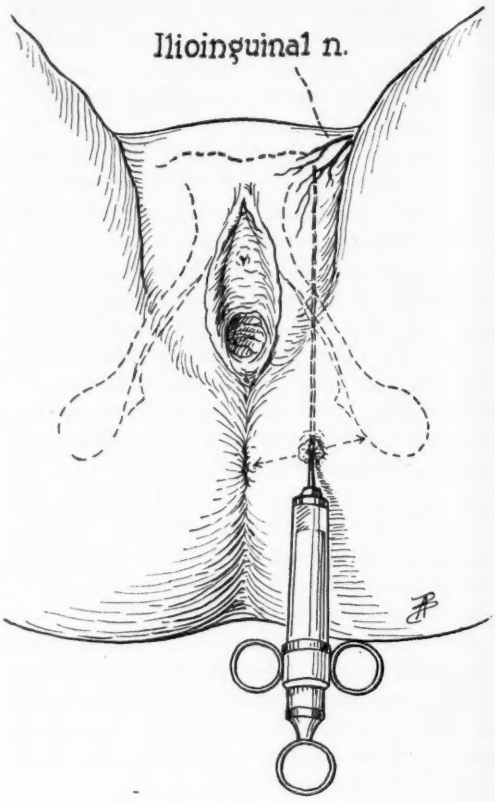

Figure 3

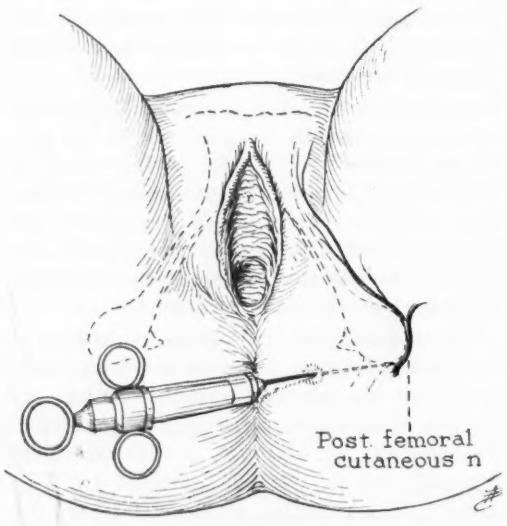

Figure 2

This procedure, when done bilaterally, results in anesthesia of the vulva and perineum and the external one-third of the vagina. Anesthesia will persist for approximately thirty to forty minutes. This period is usually adequate for the delivery and episiotomy repair. If the anesthesia does not persist for the entire procedure, supplementary local infiltrations at the site of the episiotomy with 0.5 per cent procaine solution are used.

The perineal anesthesia may be supplemented by inhalation analgesia, such as cyclopropane, nitrous oxide or ethylene for the apprehensive patients whose anxiety and pain of uterine contractions are not completely relieved by the analgesic medications given during labor. This inhalation analgesia, when indicated, is administered during contractions and for delivery and is not given beyond the stage of analgesia. As previously described, high concentrations of

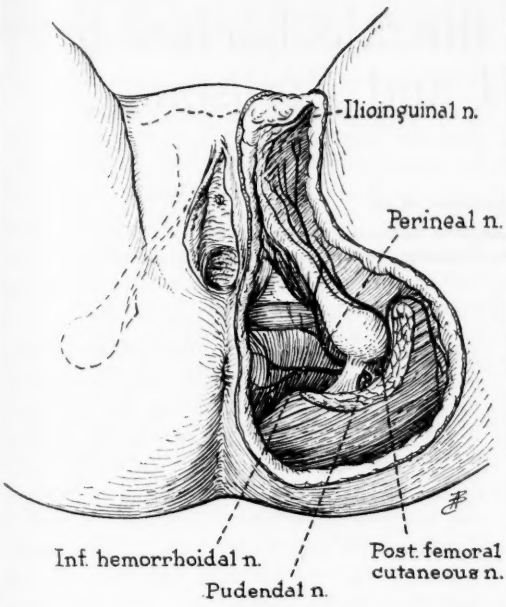

Figure 4

oxgen are administered to the mother until the umbilical cord is clamped.

Results.—Pudendal nerve block with the technic described has been used with excellent results for pain relief in 474 (94.4 per cent) of 502 consecutive vaginal deliveries in private practice. It was felt to be contraindicated in 28 cases (5.6 per cent) for the following reasons:

1. Lack of time (12)
2. Illegitimacy (4)
3. Antenatal death (5)
4. Difficult midforceps delivery (2)
5. Extreme nervousness (3)
6. Patient's request (2)

Episiotomy was performed in 413 cases. There was one infected episiotomy in the group; the other episiotomies healed without complications.

Forceps deliveries were performed in 252 deliveries (53.2 per cent) under pudendal block anesthesia. Of these, two were midforceps; the remainder were prophylactic outlet forceps deliveries. Pudendal nerve block was used in 11 of 12 breech deliveries and was found particularly desirable. Forceps were used for the aftercoming head in 7 instances. 11 of the 12 delivered spontaneously with manual aid. It was also found that the severity of the asphyxia, so frequently associated with breech delivery, was reduced, and artificial resuscitation was required less often.

Complications in this series included postpartum hemorrhage in three cases (0.63 per cent), pyelitis in one case, and thrombophlebitis in three.

There were no maternal or intrapartum deaths. One infant died of a large meningocele. Five fetal deaths occurred before the onset of labor (at 5 months, 7 months, and three at term).

SUMMARY

Pudendal nerve block is the safest effective form of anesthesia in obstetrics when effectively administered, and may be used routinely in both charity and private practice.

Local anesthesia in obstetric complications such as prematurity cardiac disease and respiratory disease is desirable and safest for the mother and the infant.

Pudendal nerve block may supplant or replace general anesthesia in more than 90 per cent of deliveries. Its successful use is dependent to a great extent on the preparation of the patient. She must have (1) adequate sedation (2) psychologic preparation and (3) freedom from excitability, which sometimes results from the use of scopolamine.

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REFERENCES

1. Ilmer, Walter: Ueber Nervus Pudendus Anästhesie, Zentralbl. Gynäk. **34**:699-702, 1910.
2. Greenhill, J. P.: Use of Local Infiltration Anesthesia in Obstetrics and Gynecology. Surg. Clin. North America **23**:143-163. February, 1943.
3. Buxbaum, Henry: Local Anesthesia, Am. J. Obst. & Gynec. **48**:90-93, July, 1944.
4. Hains, J. W., and Waters, R. M.: Pain Relief in Labor, J. Missouri M. A. **37**:369-371, September, 1940.

Some Studies on the Mechanism of Action of ACTH and Cortisone

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After introduction of ACTH and cortisone in 1949, our group at Michael Reese Hospital in Chicago, like other groups, in other hosiptals throughout the country, carried out innumerable chemical analyses on blood, urine, stools, to see if we could obtain some clue to the mechanism of action of these new drugs. This, of course, was "shotgun research", for the results had meaning only when subjected to statistical analysis. Like other groups, we could find no relationship between the relief of symptoms produced by these drugs and the alterations in the chemical balance of our patients. Cortisone in doses of 100 mgs. a day is a very potent drug, but it causes only slight changes in carbohydrate metabolism, insulin sensitivity, and the level of the blood potassium in the majority of cases; and we could establish no consistent relationship between the therapeutic effect of cortisone and the minor chemical deviations it produced. At this point we reached certain tentative conclusions. Either the metabolic effects of ACTH and Cortisone had no relationship to the clinical effects, or we simply were not measuring the correct metabolic effects. In order to answer this question, we resorted to animal experimentation.

In setting up our program of animal research, we began by studying the effect of cortisone on stress. There are many types of stress and many ways to study it. We decided to use muscular exercise to produce adrenal insufficiency in order to assess the effect of cortisone. We chose muscular exercise for two reasons: in the first place, it can be quantitated; in the second place, muscular exercise in itself produces known metabolic effects, and the alterations produced by cortisone can be more easily and intelligently evaluated. We found the easiest way to study this was by using rats as experimental subjects. We put them in a tank of water and made them swim. A normal rat can swim almost indefinitely, but when rats are adrenalectomized they can swim for only thirty minutes, approximately, before beginning to sink. In our first experiments we caused two groups of rats, one a control group, and one a group of adrenalectomized rats, to swim until the adrenalectomized rats began to drown. At ths point the diaphragms of both groups of rats were excised and immediately stimulated in vitro directly and via the nerve. We were interested to find that in vitro we could detect no effects of fatigue in these rat diaphragms from adrenalectomized rats as compared to the control group, even though the animals had obviously died in complete exhaustion. Hence, we concluded that the physiologic abnormality that adrenalectomized rats showed during physical exercise was not related to changes in the muscle itself or in the nerve-muscle junction.

At this point we began to evaluate the circulatory system of our animals. In vivo we found that the blood pressure fails before muscular strength begins to fail. When the blood pressure fell below 70 mm Hg. due to loss of peripheral vaso-constriction, there was not enough bloood flow in the muscles to sustain the ability to produce work. Restoration of the blood pressure from these shock levels restored the ability of the muscles to perform adequately. Stimulation of one group of muscles only, may cause a

generalized circulatory stress which may lead to death. Hence, we decided that further study directed toward the circulation was necessary.

When adrenalectomized dogs are subjected to long continued muscular exercise, there is a blood pressure fall prior to death. The question we asked was: Was this blood pressure fall due to a deficient vascular tone? It was found that adrenalectomized animals, when subjected to stress, became less responsive to noradrenaline. Larger and larger doses were necessary until finally a very large dose caused only a transient rise in blood pressure, followed by vascular collapse and death. In general, we found that after adrenalectomy the animals showed a diminished response to the constrictor action of noradrenaline, followed by collapse.

In order to study this subject further, we decided to observe the blood vessels directly. Under light anesthesia, we exposed the rat mesoappendix under a microscope, in vivo. The mesoappendix was bathed in Ringer solution, and in the anesthetized rat it is possible to make continuous observations for several hours.

Normally, in observing this preparation, one can observe "vasomotion" or rhythmic constriction and dilatation of the arterioles. In the adrenalectomized animal in good clinical condition, vasomotion is minimal. Exposure of the animal in this condition, however, is in itself a stress. As exposure is continued, the circulation slowly becomes disorganized in adrenalectomized animals. Segmental dilatation of veins appears, capillaries become plugged, there is diapedesis of white blood corpuscles, and small hemorrhages develop, followed finally by death of the animal. In the normal animal, noradrenalin causes a brisk constriction of the blood vessels followed by a brisk disappearance of this effect. In the adrenalectomized animal there is diminished sensitivity to noradrenalin. A large dose may cause contraction of the blood vessels, but is quickly followed by vascular collapse. When the insensitivity of the preparation finally reaches the state where noradrenalin in a concentration of 1:50,000 is necessary to produce an effect, as opposed to the sensitivity of the normal to a concentration of 1:800,000, the sensitivity of the preparation can be restored by the use of watery adrenal cortical extract. Hence, we can conclude that the C^{11} oxysteroids are needed in order to allow the vaso-constrictor agent to affect the receptor organs.

This leads to the proposal of the hypothesis of "permissive action." By permissive action we mean the theory that the C^{11} oxysteroids do not affect the receptor organs directly, but produce their effects by allowing the receptors to respond to normal physiologic stimuli. When there is a deficiency of C^{11} oxysteroids, as in the adrenalectomized animal, the normal homeostatic mechanisms do not function.

In working out the details of the mechanism of action by which the C^{11} oxysteroids allow the animal to respond normally when subjected to stress we have taken as a working hypothesis the theory that stress affects the organism in large part through the autonomic nervous system, and we feel that the circulatory effects of stress are mediated by the autonomic nervous system. The C^{11} oxysteroids must work together with the autonomic nervous system in order to produce a coordinated homeostatic effect, and we feel that we have experimental proof that this sequence of events does occur.

Dibenamine acts to block the sympathetic effectors. High doses of banthine block at the ganglion. When rats and dogs are subjected to severe stress after adrenalectomy, their response to stress is abnormal and the animals quickly die. If these adrenalectomized animals are given C^{11} steroids they are able to respond normally to stress. However, if, in the adrenalectomized animal, the autonomic nervous system is blocked by dibenamine or by high doses of banthine, the animals show a normal response to stress and do not die because there is a balance achieved, and the central nervous system is not working unopposed. We have tested this with animals in which bilateral ardenalectomies have been done, and we found that when bilateral adrenalectomy is combined with large doses of banthine, we have been able to obtain normal responses to the shock of blood loss, the stress of severe muscular exercise, and to heavy doses of morphine. This work has been extended to the peripheral vascular work previously mentioned, and we find that the peripheral vascular end point of stress is not lethal if the autonomic nervous system is also blocked.

In our work on the mechanism by which ACTH and cortisone produce their effects, we have, in addition to this work in stress, been working on the effect of ACTH and cortisone on

granulation tissue. In order to study this, we used injections of turpentine to produce standard chemical abscesses in our experimental animals. In a normal animal, when turpentine is injected, an abscess is formed with a necrotic center surrounded by a region of leukocytic infiltration, which in turn is surrounded by an area of granulation tissue in which there are numerous fibroblasts, wandering cells, proliferating capillaries, and intercellular ground substance. If, however, our animal is given cortisone before the turpentine is injected, and cortisone is continued, the abscess is somewhat different histologically. The necrotic center is the same, the zone of leukocytic infiltration is the same, but the granulation tissue is inhibited. In the area where normally there are many fibroblasts, fibroblasts are few. The ground substance is deficient, and there is very little new growth of capillaries. Furthermore, if instead of giving the cortisone orally or intramuscularly, small doses of cortisone are injected locally in the region of the abscess, the effect is the same. Hence, the effect of cortisone on granulation tissue is local, rather than an effect on the whole animal organism.

To show the difference between the local effect of the hormone and a general effect of the hormone, a preparation of growth hormone was given to some of our animals. This affected the whole animal, and in response to local injection of turpentine, there was a marked increase in fibroblast activity. This growth hormone was not effective locally. However, when animals were given growth hormone, there was an antagonism between the effect of the growth hormone and the effect of the cortisone, both locally and in the animal as a whole. Hence, we can conclude that the effect of cortisone on blood vessels is a local one, and when blood vessels are exposed to cortisone they react in a different way to drugs. So far as our work with inflammatory tissue was concerned, we can now feel that cortisone either prevents the production, locally, of a chemical signal for inflammatory tissue, or else prevents the blood vessels or fibroblasts from reacting normally to this chemical signal, even if it is produced normally.

We feel that the mechanism of action of cortisone and similar hormones will be found in the study of the intimate histochemistry of physiological signals, and in the way in which receptor organs respond to physiologic stimuli, rather than on the biochemical balance of the organism as a whole. We feel that there are clues in the effect of cortisone on the oxidation-reduction systems of the body, on the level of blood glutathione, and on other histochemical systems, and are continuing to work in this direction.

DISCUSSION

Dr. Robert M. Kark: Professor of Medicine University of Illinois College of Medicine.—Dr. Levine's findings are of fundamental importance because they supply the experimental evidence for a fact which has become increasingly apparent from the observation of patients, namely, that the different response of individuals to ACTH and cortisone depends on their different biochemical settings. If one would attempt to translate the results of Dr. Levine's studies on the effect of dibenamine and banthine on animals under stress, into our clinical problems, one wonders whether Banthine should not be given concurrently with ACTH?

Dr. Rachmiel Levine: Dr. Harold Wiggers followed a similar train of thought when he used dibenamine in the treatment of animals in shock. Similarly, a study of patients with rheumatoid arthritis has shown that the administration of cortisone results in an increased responsiveness to noradrenaline.

Dr. Kark: In recent weeks we had an experience which pointed to a similar mechanism on a cellular level. Patients who had a bilateral adrenalectomy failed to show a significant drop in eosinophils after injection of epinephrine. Administration of cortisone to these patients restores the eosinopenic response to epinephrine.

Dr. Max Samter Associate Professor of Medicine University of Illinois College of Medicine.—In the majority of experiments which study the effect of cortisone on tissues, the amounts which were used exceeded by far the physiological concentration of the hormone. Do you feel that you deal with a pharmacological rather than a physiological mechanism?

Dr. Levine: In tissue experiments you must keep in mind that only a fraction of the injected cortisone reaches the area under investigation. If, as in our studies, the hormone is injected directly into the turpentine abscess, only minimal amounts are needed to produce significant effects. One must also keep in mind that the eu-adrenal individual very likely destroys at least part of the injected cortisone.

Dr. Melvin Chertuck: Instructor in Medicine University of Illinois College of Medicine.—You mentioned that adrenalectomy makes experimental animals more susceptible to stress. Is this also true for hypophysectomized animals?

Dr. Levine: Yes, to a certain extent, but much less than after adrenalectomy.

Dr. Samter: It seems to me that there is a certain discrepancy between the findings which you have reported and observations which we have made in recent months. Dr. Taubenhaus has found that cortisone inhibits fibroblast activity; on the other hand, in our allergic patients (in whom fibroblast activity seems to be impaired as a result of the allergic reaction) ACTH seems to restore the normal appearance of the ground substance.

Dr. Levine: Your question raises an interesting point. I believe, as Sayers does, that the C^{11} steroids do not have a "set" action. They rectify; in other words, they are capable of acting either way. I believe that the state of the tissue itself actually determines the response to ACTH and cortisone.

Dr. Herman A. Levy: Clinical Assistant Professor of Medicine University of Illinois College of Medicine.—It seems interesting to speculate where the actual impairment lies in those patients whose symptoms respond to ACTH. Do you feel, for instance, that patients with chronic bronchial asthma suffer from an impaired function of the adrenals?

Dr. Levine: So far, and I am certain that Dr. Samter concurs, we have no evidence for an adrenal insufficiency in patients with chronic bronchial asthma; or at least, not more than in any chronic disabling disease. I would like to use this opportunity to point out that in the evaluation of the clinical effect of ACTH or cortisone one is sometimes misled by the tremendous feeling of well being, which is a side effect of the administration of these hormones and often obscures the proper estimates of their specific action.

Dr. Gerard Gros: Clinical Assistant in Medicine University of Illinois College of Medicine.—You have stressed the importance of ACTH and cortisone as tools in the investigation of fundamental physiological regulations. I would like to ask you whether you feel that the hormones should be used in the treatment of, let's say, rheumatoid arthritis?

Dr. Levine: Yes, I do, in selected instances and provided that you remain conscious of the fact that the best you can accomplish is symptomatic and temporary relief.

EMERGENCY ANESTHESIA

Conduction anesthesia either by the continuous spinal or epidural route is valuable in cases of anuria except in those instances wherein the anuria is due to blood incompatability. In my experience conduction anesthesia is not of much value in this type of complication. However, in acute renal complications in children, frequently associated with respiratory infections, and some of the exanthemata, conduction anesthesia is very much worthwhile in treating anuria.

As mentioned previously there are a number of medical emergencies wherein the anesthesiologist can be of assistance, for example in certain types of poisoning such as that due to barbiturates. In these instances we are confronted chiefly with a respiratory and circulatory problem. It may be necessary to utilize suction bronchoscopy to remove substantial accumulations of mucus, and to insert an intratracheal tube for a varying period of time, and in the profound sub-lethal instances to carry on artificial respiration. A point frequently overlooked in this connection is the utilization of an artificial adult respirator of the type used for treating certain forms of poliomyelitis. In fact, a respirator of this type is invaluable for the treatment of any case of respiratory arrest. I suggest therefore that this piece of apparatus be considered in handling respiratory complications due to the ingestion of certain poisons, notably bartiturates. The judicious use of certain drugs which are classified as analeptics should be considered. More precisely possibly and perhaps more effectual is the treatment of barbiturate poisoning by means of exchange transfusions, or dialysis by means of an artificial kidney. *Excerpts Anesthesiology and Its Practical Adaptation into General Medicine and Surgery, Edward B. Tuohy, M. D., M. S. (Anesthesia), Wash. D. C., Arizona Med. Feb. 1952.*

Bowel Obstruction
A Brief Resumé of Its Therapeutic Evolution

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Chicago

When in these days, within one week two men of quite some experience open tremendously distended abdomens due to post-operative intestinal obstruction, without preliminary decompression (a procedure which has become axiomatic); then there is undoubtedly need for a paper on the subject, which goes far back into the past, tracing and explaining the therapeutic evolution as it gradually leads up to its modern phase.

From the earliest days of man and for thousands upon thousands of years, the victims of intestinal obstruction lay there with their swollen, tender bellies, wretching and vomiting unto death. Not all of these sufferers died from the first attack; in fact, some recovered completely. Others endured recurrent attacks, till finally the last attack which could not correct itself, came upon them. These were the cases which had repeatedly decompressed themselves by gaseous eructations and vomiting (nature's mode of decompression, autodecompression), the artifical use of which today ranks as one of the most important factors in the treatment of bowel obstruction.

Hidden among the various conditions characterized by colic, obstinate constipation, and vomiting were the cases of bowel obstruction only to be recognized as such in a very distant future. Throughout antiquity and the middle ages, and still further, the treatment of obstruction as a matter of course was then purely conjectural. Hence I deemed it sufficient to refer to only two authors, Celsus and Ambroise Pare, as those whose works would represent their respective periods.

Celsus,[1] (First Century), one of the leading medical men of the ancients mentions cases which undoubtedly were those of bowel obstruction. The treatment consisted of purges, venesection, cupping of the abdomen, hot cataplasma from the breasts down as far as the groins; immersion of the patient in warm oil or honey, but most important was, as advised by Erasitrasus, the use of copious enemas.

Ambroise Pare[2] (1510-1590), the great French surgeon of the middle ages, was possibly the first to recognize bowel obstruction as a pathological entity, mentioning as he does a case which had died from a twisted bowel. His treatment for patients which surely included those with intestinal obstruction, consisted of powdered gut of wolf orally; purging and enemas. For severe cases he used mercury in water, leaden bullets smeared with quicksilver and a strange witch-like remedy consisting of broth extracted from an old rooster chased about until exhausted, then thrashed to death, and lastly boiled with dill till the flesh fell from its bones. A course of treatment not quite as logical as that of Celsus.

Besides these two men, Praxagoras (Dinnick)[3] deserves special mention, as four hundred years before Christ, he performed the first recorded enterostomy in a case of severe ileus, and with it he introduced decompression which over twenty centuries later should play such an important role in the treatment of bowel obstruction. Unfortunately, the outcome of the case is not recorded.

Puncture of the bowel, a less effective form of decompression also had an early origin, being introduced by the veterinarian Apsyrtus[4] 300 years B.C. and later adopted by the physicians and used now and then until the latter part of the last century, being referred to disparagingly as late as 1899 by Treves[5].

Dinnick[3] mentions that left colostomy was first performed by Pellory in 1770 for cancer of the colon. The case was extremely interesting and Dinnick considers the report a masterpiece of writing, surgical judgment and daring. It is indeed well worth reading. In 1839 Ammusat (Dinnick)[3] collected twenty-six cases of this operation with twenty deaths, all due to per-

itonitis. Promptly meeting this dangerous complication he changed the emptying route through the right lumbar region, suturing the bowel in an extraperitoneal pocket successfully, in nine consecutive cases. This right lumbar colostomy was used generally for a long period, its technique being described by Bryant as late as 1889.

Anal surgery, an easily approachable field, has an early history especially in the treatment of anal and rectal fistulae. Resection of the anus and lower rectum for cancer was first performed by Lipprance in 1826. In order to make the lesion more accessible. Kocker in 1876 did the first coccyxegtomy, and with a similar purpose in view Raske[6] in addition removed a great portion of sacrum, an operation in great favor for a quarter of a century.

Except for the use of colostomies, nothing of a marked revolutionary nature took place in the treatment of obstruction until in comparatively recent times, the Surgeons began to invade the abdominal cavity at which, incidentally, the number of obstructions increased as post-operative complications, but also made possible the direct attack upon the obstruction itself. Mostly late cases came in the hands of the Surgeon; cases with bloated bellies, weakened by drastic physics and repeated exhausting enemas; cases in which the surgeon groped to the elbows among overdistended bluish guts, in search of the obstruction, with such disastrous results, that to operate or not to operate became the question among many surgeons.

To the dread of obstruction was added the frequent danger of peritonitis, which even in my early days clouded every laparotomy. Nicholas Senn[7] 1889, states that direct surgical interference with bowel obstruction was in its infancy, and the few surgeons, *who resorted to direct measures, were condemned as murders by some of the ablest surgeons.*

Concerning acute obstruction of a cancerous colon, Deaver & Ross[8] (1915) remark: *"It is not to be expected that in such cases recovery could occur."* This from Deaver, one of the most prominent surgeons of his day.

Eventually, the direct drastic attack upon the lesion was gradually replaced by conservatism in the use of preliminary enterostomy or colostomy, disregarding the lesion until later. This indirect approach by the use of decompression proved to be the great turning point in the treatment of bowel obstruction, and remains as one of the most important factors in the treatment of this treatment.

The first enterostomy was performed by Nelaton[9] in 1855, in a case of a strangulated hernia, with recovery. Shelly[10] reports that in 1896 Fuhr and Wesener recommended its use as a temporary relief and Leiden in 1902 reported 5 cases of postoperative obstruction cured by enterostomy alone; *a huge step forward, in that it demonstrated that at least in some cases a secondary operation may become unnecessary, as the lesion had corrected itself.*

When first utilized, any overdistended loop was selected for the enterostomy and manipulations were tabooed. So as to facilitate the operation, the distended bowel was often aspirated by syringe or trocar.

I noticed as so many others must have done, that if the introduction of the enterostomy tube were followed by intermittent expulsion of gas and intestinal contents, the prognosis would be very favorable, because it would show the presence of peristalsis — *the diagnostic sign of viable bowel.* Should this evidence be lacking and aspiration yield only a limited amount of gas and intestinal contents, the prognosis would be questionable but by no means hopeless. It might mean that the bowel had only become paretic, but with the tension reduced it might regain its tone and activity, which in a few hours would be heralded by spurts of gas and intestinal contents, denoting the return of peristalsis and with it a favorable prognosis. If, on the other hand, after considerable time there appeared no sign of peristalsis, it would mean complete irremediable bowel paralysis and approaching death. Hence, peristalsis deserves observation . *The intestional peristaltic wave is second in importance only to the beat of the heart. Peristalsis or no peristalsis (paralysis) means the difference between life and death.*

The first preliminary colostomy destined to have a far-reaching effect, was performed by Adams[11] in 1882, on a patient harboring a rectal carcinoma. By diverting the irritating fecal flow over the ulcerating lesion, the patient was greatly relieved and subsequent cases showed a marked reduction in the size of the tumor, rendering it more amenable for excision. *This led Adams to strongly recommend colostomy in all*

cases of rectal carcinomata, a procedure still practiced in most cases. Further, the case presented the *combination of rectal carcinoma and piles, a condition which today demands proctoscopic* examination of all hemorrhoidal cases.

In an acutely obstructed cancerous colon or rectum, which are now considered a different *entity from that of acute obstruction of the* small intestine, the result from a preliminary colostomy was, and is, particularly gratifying; in fact phenomenal, as these cases approached a death rate of 100% in 1915. Deaver & Ross[8] and Vich[12] in 1932 reports 426%.

All cancers of the colon or rectum sooner or *later became infected, the infection spreading in-*to the surrounding tissues, forming large in*durated masses. Even exploratory palpation of* these tumefactions often caused death from *peritonitis.* In such cases the lessened tension caused by colostomy soon changed the pathologic picture, reducing the local congestion and with it the tumefaction to a third of its size, even causing absorption of adhesions and greatly modifying or eliminating the infection. This process eventually was further aided by irrigation from above through the enterostomy and from below through the rectum, which together *with added "building up" measures, resulted in* a marked reduction of the death rate.

For these cases various methods of resections are employed. Resection with end-to-end anastomosis following colostomy, ileostomy or ileocolostomy, two stage operations such as the exteriorization method first unintentionally done by Schede 1879, designedly performed by Block on 1892, followed by Miculicz[13] famous operation in 1893, Leahy[14] madified technique and lastly Rankins[15] obstructive resection 1936. *In 1883 Czerny devised abdomino-perineal oper*ation, later perfected and popularized by Miles[16] in 1908, and now mostly done in one stage. In fact a great number of surgeons consider one stage the ideal operation for all cases of colonic or rectal carcinomata.

Now and then one had to resort to operative *closure of the enterostomy; at times with some* difficulty, even necessitating bowel resection as in one of my cases greatly debilitated from numerous complications. This, then, presented a problem which was eventually solved by the use of non-operative tubal suction decompression, prominently linked to which are the names of Einhorn[17], 1908, Werteman[18], 1910, Levin [19], 1921, Wangensteen[20] 1932 and Miller Abbot[21] 1947, and others.

Gastrointestinal suction ranks as one of the more valuable contributions to the treatment of *bowel obstruction. It prevents paralysis of the* bowel by averting overdistention of the obstructed organ, and thus it preserves peristalsis. It also restores peristalsis by lessening the tension of an already over distended paretic bowel (ileus) allowing it to regain its tone and activity.

Its scope and usefulness has greatly increased particularly in postoperative obstruction, real or threatened, saving innumerable lives. Hence, *it cannot be too strongly emphasized that every* post operative abnormal distension should be *looked upon as a potential obstruction and* should at once be combatted by suction.

There is some danger of inhalation pneumonia in connection with this intubation. It can possibly be minimized by daily cleansing of the tube, by its partial withdrawal.

*Segmentation presents special, but not in*surmountable difficulties, to suction. It is not impossible that it may cause step-like decom*pression of each obstructed segment.*

Closed types of obstructed colon and strangulated bowel furnish distinct contraindications for prolonged suction, but even in these latter cases suction decompression while the patient is prepared for surgery is of decided value because a decompressed or even partly decompressed peristalic intestine, unquestionably, carries with it a much better operative risk than an overdistended paretic bowel.

The greater number of post operative simple obstructions may be remedied by suction. The mechanism of such a correction in cases of acute adhesive obstruction is best explained by a description of the vascular intestinal pathology at the site of obstruction and the effect upon these findings by intestine suction (or enterostomy). In an effort to overcome the obstruction, the bowel proximal to the obstacle will eventually exhaust itself and this muscular tigue will be followed by over-distention causing circulatory disturbances at the site of obstruction, resulting in congestion and edema and it is this edema that eventually closes the bowel *making the obstruction complete.* Suction by relieving the intra-intestinal tension restores the embarrassed circulation and this, in turn, reduces

the edema causing the bowel to shrink, opening a channel through the obstruction allowing the passage of gas which forcibly straightens the kinked bowel adherent as it was with easily separated fibrinous adhesions.

The use of physics in obstruction was only gradually abandoned, but ironically enough it was displaced by the hypodermic use of Pituitary extract — a product not labeled as a physic, but which by promoting peristalsis is a physic in its action. This and similar drugs were used for years and years before it was realized that it definitely aggravated the condition.

In the meantime, a tremendous amount of research was done for the purpose of establishing the cause of death in bowel obstruction. For quite some time it was generally conceded to be due to a toxemia from absorption of toxic products, accumulated in the intestines above the obstruction. Tsis theory was gradually abandoned and our simple experiments were as conclusive as any against it. (Werelius[22]). Dehydration and dechlorinization are now accepted as the dangerous factors in bowel obstruction.

It might be of interest to note that in my Intern days and further on, *dehydration was actually part of the pre and post-operative treatment in all operative cases.* Calomel and salts were mostly given before operation, often in repeated doses, causing profuse watery stools, in order to completely clean out the gastrointestinal tract and post-operatively fluids were greatly restricted sometimes for days. Undoubtedly, this devitalizing treatment caused many a patient to lose his only chance of recovery.

Later the pendulum swung sharply the other way and "Push Fluids" became the order of the day. And "Pushed" they were. Quite often at the wrong time and with the improper fluid. Thus, the next day after operation, one not rarely found the patient in agony from copious draughts of fruit juices or other unsuitable fluids to the worry of the surgeon. Even to this day, at times it becomes necessary for the surgeon to include "No fruit juices" in his first post-operative order.

The above mentioned search for the cause of death in obstruction, together with further biochemical research proved to be of inestimable value in that it showed us the existence of dangerous biochemical losses, the knowledge of which enabled us to correct these insufficiences in support of the patient. Hence, we are now able to estimate and remedy water, electrolyte, protein, vitamin, and other imbalances which together with antibiotics and improved methods of anesthesia has led to the scientific pre and post-operative treatment of today, which has resulted in such rich earning in saved lives. Space does not allow comparative results, but the over all death rate which in 1874 was 68%, now is reduced to about 20% or less.

SUMMARY

From immemorial times, the main therapeutic object in the treatment of obstruction recognized or otherwise, has and must be, as a matter of course, the restoration of the passage of the intestinal contents.

Not until the condition was recognized as a pathological entity could a rational treatment be gradually instituted. The first procedure to fulfill this main objective came with the use of colostomy, mainly the lumbar type, creating a fecal outlet, an operation frequently used during the ending quarter of the last century.

With the invasion of the abdominal cavity, the obstruction itself was attacked, but with such disastrous results that the question arose whether one should operate, or not operate at all. This eventually was settled by conservative decompression by the use of enterostomy or colostomy relieving the acuteness of the obstruction, and ignoring the lesion for a later safer attack. In a great number of postoperative obstructions, this became unnecessary as the lesion corrected itself, being mostly of the adhesive type.

Decompression used as above markedly lowered the mortality rate and proved to be the turning point, the prelude to modern surgery for intestinal obstruction. Later it evoluted into suction decompression one of the more important contributions to intestinal surgery.

Decompression in whatever form used is one of the most important factors in the treatment of bowel obstruction for what could one possibly do without it in acute obstructions, particularly in those caused by carcinoma of the colon and rectum in which besides relieving the acute obstruction, it also allows time for rehabilitation of the patient to better withstand the coming resection.

Decompression preserves peristalsis, the sign of a viable bowel, by preventing over distention

of the obstructed intestine and it also restores peristalsis by lessening the tension of an already paretic bowel, allowing it to regain its tone and activity. The peristaltic wave is second in importance only to the beat of the heart. Peristalsis or no peristalsis (paralysis) means the difference between life and death.

The acute carcinomatous obstruction of colon and rectum are considered a different entity from that of acute destruction of the small bowel. One stage is the ideal operation for carcinoma of colon and rectum.

Biochemical research showed that the loss of water and electrolytes in bowel obstruction were fatally dangerous deficiencies, the knowledge of which enabled one to correct those unbalances by the use of intravenous salt solution, resulting in reduced mortality rate.

Still further reduction in the death rate has been attained, sometimes phenomenal, by earlier diagnosis; hence, earlier interference, improved surgical technique, selection of proper procedure, "building up" measures of chronically obstructed cases and of those temporarily relieved by surgical decompression, correction of biochemical losses, of anemia, of hypoproteinemia, of vitamin deficiencies, the use of antibiotics, a diet low in residue and last, but not least, by scientific anesthesia.

Thus, the evolution of the treatment of intestinal obstruction has progressed step by step throughout the centuries, to the truly marvellous results of today, but only to stimulate us to further, and still further, endeavors.

REFERENCES

1. Celsus, Alexander Lee, 1831-36, page 291.
2. Ambroise Pare, the Works of, translated by Girson London Coles, 1634, p. 689.
3. Dinnick, British Journal of Surgery, Vol. 12, page 142, 1934.
4. Eberlin, Entwicke, Tierarthiche Chirurgie, Berlin, 1908. Page 7.
5. Treves, Intestinal Obstructing, N. Y., Cassel, 1899.
6. Kraska, Verk d Deutche, Geselish f. Chirurgie, 8-465-1885.
7. Senn, Transactions Congress American Phys. Surgeons, Vol. I, page 43, 1889.
8. Deaver and Ross, Annals of Surgery, Vol. I, page 198, 1915.
9. Nelaton, Lect. on Surg. page 582, 1855.
10. Shelley, Arch. of Surgery, Vol. 25, page 943, 1932.
11. Adams, Medico-Chir. Transactions, Vol. 35, page 57, 1852.
12. Vich, British Med. Journal, Jan. 2, 54-C and Sept. 17, 1932.
13. Miculicz, Boston Med. Journal, Vol. I, page 611.
14. Leahy, Surgical Practice, W. B. Saunders, C. Phila., 1942, page 471.
15. Rankin, Rectal Surgery, Springfield, Charles C. Thomas, 1939.
16. Miles, Abdomino-perineal for cancer, Lancet 2, 1912, Dec. 19, 1908.
17. Einhorn, New York Med. Journal, June 20, 1908.
18. Westerman, Zentralblatt of Chirurgie, 37-36, 1910.
19. Levin, J.A.M.A., 76, 1007, April 9, 1921.
20. Wangensteen, West. J. of Surgery, 40, Jan. 1, 1932.
21. Miller Abbot, J.A.M.A., Vol. 106-184, page 647.

RX, DX, AND DRS.

This 'Osler' business can become even more complicated. . . . A Baltimore friend of ours has written as follows,—"I am glad to know that another Osler has appeared. You may recall that William Osler's nom de plume was Egerton Y. Davis. Last year one of the House Staff at Hopkins sent a fabulous account to a scientific journal of an occurrence he had seen while on a cruise the preceding summer. (It concerned the love-making of a couple of whales). The journal took it seriously, published it, and sent the check for the manuscript to the author, 'Egerton Y. Davis, Jr.' The check was dropped in the hospital corridor perhaps by accident; it was turned in to the superintendent; and the gag soon was recognized. . . . The whole hospital has been chuckling, because the story can't be revealed—and no one dares to claim the check! *Topics of Current Medical Interest, Ariz. M., Dec. 1951.*

Specialist Training in the Medical Arts

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The expression *Medical Arts* is used to reaffirm the supreme purpose of medicine which is to relieve suffering and to restore and preserve health. Medical and the allied biologic and physico-chemical sciences, have a purely ancillary function in the execution of this paramount task.

As one surveys the amazing transformation of medical education in the United States during the past century, one is impressed by the changing concepts of what constitutes an adequate medical education and adequate specialist training. In colonial days a practitioner of medicine required no formal education whatsoever. Anybody who felt "the call" was free to practice the healing arts. Later, in some districts a variable period of apprenticeship was required. After the satisfactory conclusion of this period, "the master" conferred upon the appentice his certificate of proficiency. Some localities required one year of schooling to supplement the apprenticeship. Organization of the medical schools was simple. Any two or more physicians could open a medical school and assume the title of professors.

The first great step towards bringing some order into this chaotic situation was taken in 1847 when the American Medical Association was founded with the purpose of "improvement of medical education in the United States". It was not until 1877 that the first Board of Health in the country was established by the state of Illinois. Under the direction of this Board, high school education was made a condition for entrance into medical school and the course of medical education was expanded to two and later (1892) to three years. However, due to laxity and corruption of politicians very little was done to improve the quality of medical schools, most of which were little more than diploma mills. In 1890 Illinois alone had thirty-nine medical schools, fourteen of them in Chicago. The state of Missouri had the record number of forty-two medical schools. By 1900, however, practically every state had an examining board and the course of the medical curriculum in most places was four years. The pre-medical requirements were not changed until 1914, when one year of college work was made obligatory for entrance to a medical school. In 1918 this was increased to two years, and one year of internship in an approved hospital was recommended but at first not uniformly enforced.

As a result of the vast progress made by medicine in the first two decades of the Twentieth century and its consequent crystallization into discrete specialties, medical societies began to concern themselves with the need for standardization of specialist training. Thus there came into being the various specialty boards. In 1917 the Board of Ophthalmology was established followed in 1924 by one in Otolaryngology and in 1930 in Obstetrics and Gynecology. The Board of Neurology and Psychiatry was not established until 1934. At the time of creation of the boards existing speccialists were generally certified upon psychiatry those who had completed their formal medical training prior to 1934 were certified upapplication without an examination. In neuroon examination provided they could show five years, experience in the practice of neurology or psychiatry and some teaching or institutional experience. Very high and rigid conditions were imposed upon those who finished medical school after the establishment of the Board. The candidate is required to supplement his medical education by a minimum of three full years of special post-graduate training to be eligible for examination. Similar conditions prevail in other specialties.

It is with the wisdom of these rigid requirements that this article is concerned. It can hardly be denied that the majority of the men in authority responsible for these rules are of the pre-Board "vintage" and, therefore, have themselves escaped the necessity of this long

period of training. This fact has not prevented them from being excellent physicians and outstanding specialists. Is it quite fair to deny the same type of training to their successors? Can it be that the younger men are not to be trusted to acquire proficiency in their chosen fields in a way similar to that of their immediate predecessors? Are the problems of the various specialties and the native talents of their aspirants of such uniformity as to require exactly the same period of apprenticeship to attain the same degree of efficiency?

In seeking an answer to these questions, one is confronted with the fundamental problem of what constitutes the most perfect method for the training of specialists. Obviously the same criteria can not be used in each of the various specialties. The primarily technical specialties such as surgery in all its branches, gynecology and obstetrics can hardly be mastered without the most exacting supervision in hospital environments. On the other hand, a fairly advanced working knowledge in such specialties as internal medicine, dermatology, neuropsychiatry and pediatrics may be gained by private study without the rigid guidance required in the more technical specialties. Psychiatry especially is distinguished because of its complex interpersonal relations. Methods of psychiatric interview, for example, vary from psychiatrist to psychiatrist and from one patient to another. Some physicians never become adept at this phase of the art regardless of the thoroughness of their training. Each psychiatrist must develop his own special technique suitable to his personality and temperament. Psychiatry differs further from her sister disciplines in the greater utilization of introspection and empathy — faculties hardly capable of being taught by others. Moreover, dealing as it does with man as a whole in his relation to the environment, psychiatry should properly have the world for its laboratory rather than the exceptional conditions of institutional or hospital life. A broad general cultural training encompassed in the term "humanities" is perhaps more essential in psychiatric practice than knowledge of some complicated laboratory procedures.

In the less technical specialties enumerated above, therefore, there appear to be two roads leading to their mastery. One is for the young graduate to determine at the time of his graduation upon the specialty and to plunge at once into post-graduate training in an appropriate institution under the supervision of his superiors. In three years of training, this graduate, let us call him Dr. A. acquires a thorough skill and scientific foundation in the salient features of his specialty. This type of training, currently sanctioned by the Boards has at least three important imperfections: 1—Insufficient experience with the multifarious problems and pitfalls of general medicine intruding themselves constantly upon his special field. 2—Insufficient degree of self-reliance fostered by the habit of supervision and shifting of the final responsibility. 3—Limited variety of human material inherent in an exclusively hospital or institutional practice. It has been said that the type of specialist exemplified by Dr. A. is as sharp as a razor and possibly as narrow. Such an extreme form of narrowing may be seen among the alumni of the psychoanalytic training centers who embark upon the world of reality equipped with little more than an intricate system of theoretic psychodynamics. In general, Dr. A is more prepared to make his mark in a research laboratory or institutional work than in the extramural world of clinical medicine.

There is a second less rapid but more natural method of specialization which was the dominant course employed by the older specialists of today. It may be described as growing into a specialty. In this case, the young graduate, let us call him Dr. B, is undecided as to the course of his professional career. He enters general practice, treating colds, hearts, delivering babies and removing appendices. As time goes on, Dr. B. discovers that he has a "knack" for a certain branch of medicine. His interest in the subject is stimulated and he begins to read books, subscribe to periodicals, attend special meetings and from time to time enroll in special brief courses. He may do a little teaching and may record his impressions in an occasional article. He persists in his endeavor, gradually altering the type of his practice and after five or ten years regards himself as quite proficient in his chosen field. His colleagues share this opinion by enlisting his counsel in their problems. Dr. B is deficient in knowledge of special latest techniques and laboratory procedures but he has a valuable store of clinical experience which should compensate

him for these defects. He can more readily "on sight" differentiate a toxic goiter from an agitated psychosis and is less likely to treat a bowel carcinoma by psychoanalytic methods. He knows from personal intimate contacts the complex problems of childhood, puberty, pregnancy, involution, senility and disease. He can separate the trivial from the serious without the "complete" laboratory work-up which is such an obsession with Dr. A and such a financial burden and physical tribulation to the patient.

But Dr. B. still lacks the official stamp of approval inherent in the Board certificate. Inquiring into the conditions for examination, he discovers that "to take" the Board he must drop his established practice and return to the hospital as a resident under the supervision of others, some of whom he can teach perhaps as much as learn from. Obviously, he is psychologically unable to make this sacrifice and must, therefore, dispense with the honor and the prestige of a Board certificate.

It seems clear that Dr. B. certainly fills as necessary a function in his chosen field as does Dr. A. It appears, therefore to be contrary to the best American tradition to deny him the opportunity to show his worth in a competitive examination. The portals of the specialties should not be closed to either of these valuable men. Even the U.S. Army leaders with their stringent West Point mentality still recognize exceptional men "from the ranks" and often elevate them to the highest posts in the service. Are the specialty Boards to maintain a more inflexible attitude than the armed services?

It seems that a practical solution of the dilemma facing "type B" practitioners who wish to obtain the recognition by the Boards is possible. Some standard of equivalence should be found between the formal resident training and experience won in independent practice combined with unorthodox post-graduate instruction. Proof of such experience and ability should not be too difficult to obtain. It should consist of such factors as 1) extent of practice in the specialty, 2) teaching experience, 3) exposure to recognized special short courses, 4) attendance at local and regional meetings, 6) contributions to special literature, 7) recognition by other members of the profession as measured by frequency of hospital consultations. No single factor should be decisive but all should be carefully weighed in the evaluation of the candidate's eligibility. Board examinations should be made even more thorough and comprehensive than they are at present. But they should not be made so tricky or difficult that they could not be passed by the examiners themselves.

CONCLUSION

Criticism has been expressed on the undue rigidity of the present requirements by the Specialty Boards. It is suggested that requirements of eligibility to Board examinations should be made to conform to the nature of individual specialties. More weight should be given to experience to include those clinical specialists who have had the spirit and the mettle to train themselves without formal guidance.

PROGRESS IN SHOULDER SURGERY

In the treatment of the most common major-joint dislocation seen in athletics, — notably that of the shoulder, — the more complicated Bankart operation is superseding the Nicola technic. This new procedure has been generally accepted as more effective in reducing the incidence of recurrent postoperative dislocation in competitive sports. I would be premature at present, however, to judge its success until further reports are made of five or more years' end-results among those patients who return to competitive body-contact sports. *Excerpt: The Trauma of Athletics, Augustus Thorndike, M.D., Boston, The New England J. of M., Feb. 28, 1952.*

Personal Experiences With Cataract Surgery

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The section on Eye, Ear, Nose, and Throat of the Illinois State Medical Society has been fortunate in hearing several splendid papers on cataract surgery during the past fifteen years. Gailey reported in 1937 an extensive analysis of 200 of his cases, 175 of whom saw better than 20/40 after surgery. Roper's prize paper on the Lancaster technique may be in the memory of many of you. At the same session in 1946, Nugent reported on his experiences with the suction method and our late colleague, Dr. Bothman discussed complications a year later.

It might be of interest to follow these papers with some considerations which enter into the problem of cataract surgery in a small town hospital, where the oculist is frequently at once the chief of his department, as well as the last eye adjunct, where his clientele consists solely of private patients, where his assistance may be limited to one general scrub nurse and a circulating nurse, and where he is responsible for the outcome of his operation to no lesser degree than his distinguished colleague in the well organized eye department of the big university hospital. Under these circumstances one is forced to lean towards conservatism and to look for procedures which are relatively simple and safe. The colleague in a position to try newer techniques in free hospitals is probably much faster in adopting recent and sometimes more brilliant procedures than the surgeon who works by himself and tends to stick to modes of operation which may not be the very latest, but which have given him reasonable success.

Conservatism starts with the decision of when to operate on a given case. Some operate on a patient's cataract regardless of the condition of the other eye. Others operate everything below 20/70. Kuhn recently pointed to the industrial requirement of bilateral 20/20 vision and has operated monocular cataract in the presence of a second normal eye.

Looking at the satisfaction of the patient as a gauge for our end result, my experience with patients who were operated early, with one eye still seeing relatively well, has not always been a happy one. As long as the vision is 20/50 or better in the unoperated eye, this eye is frequently preferred over the aphacic one even 20/30 or even 20/50. The patient who undergoes the unpleasantness and expense of cataract surgery wants usually more than a friendly assurance that he has now a reserve eye, that he now has side vision and that he does not have to worry any more about becoming blind. No matter how carefully one explains to these monocular cataract cases before surgery what they can expect immediately afterwards, they will never stop asking their doctor when he finally will fit the operated eye with glasses. Contact lenses and minifiers are only a very incomplete answer to their wishes.

Based on these considerations I am now following these rules, which may vary slightly according to the age and physical condition of the patient: Persons who see better than 20/50 in one eye and better than 10/200 in the fellow eye are only operated on, if, after careful explanation, they request it personally. All persons who see less than 20/70 are recommended to be operated in their worst eye. All cases who have a mature cataract are urged to be operated, regardless of the stage of the other eye. Iridocyclitis and secondary glaucoma are too frequent and too unpleasant an occurrence to delay surgery in a ripe cataract. Monocular mature cataracts should, however, be looked upon with suspicion, especially, when the fellow eye has no sign of lens opacity whatsoever. These ripe, sometimes dark brown unilateral cataracts

Presented before Section Eye, Ear, Nose & Throat, 110th Annual Meeting, Illinois State Medical Society, Springfield, May 24, 1950.

often started as complications in an abnormal eye and even with good light perception and projection may not give a normal course nor result.

Whenever surgery has been decided upon, it is my custom to refer the patient to his own physician to decide if the general condition makes it safe for the patient to undergo surgery. We do not have an interne in our hospital who automatically could write a general history. It is further a good idea to give the family physician a token of responsibility in a person for whose general ailments he has cared over a long period of time. Even with such an examination and a report forthcoming, it is a good idea for the oculist himself to do routine checks for blood pressure, lungs, heart, and possible diabetes on the evening before surgery. I once had a case of panophthalmitis in a diabetic patient, which was cleared to me as being a safe risk. The responsibility for such occurrence rests with the surgeon, who actually should rely on no one but himself.

Tearsack and tension are checked in the office as soon as the operation has been decided on. The appearance of the conjunctiva is noted at this visit, but is further investigated for possible infectious germs by a twenty-four hour culture. This is a time honored custom, although one wonders if it serves better than the clinical appearance for an evaluation of safety. The postoperative reaction is much more dependent on the careful technique of the oculist. It is also dependent on the type of individual we are operating, as it is much more unusual to get a marked postoperative reaction in an old, thin, anemic individual than in a heavy set, full-blooded plethoric patient. Referring to another field, the German literature mentioned constitutional differences for retinal pathology, contrasting the degenerative changes of thin pale persons to the exudative and hemorrhagic lesions of the plethoric patient. I do believe that these constitutional differences enter into the picture of the degree of postoperative reaction in ocular surgery.

The preparation of the patient does not vary in any way from the accepted procedures in other hospitals. Sedation with Barbiturates, cleansing of the operative field with iodine followed by alcohol, coagulation of any mucous by argyrol which is irrigated out a few seconds later and Van Lint akinisia (lately made more effective by adding the newly described encyme Hyaluronidase) as well as a superior rectus bridle suture are commonly accepted by practically all of us. The only differences may be that the surgeon himself has to carry out these procedures instead of the assistant who might be present in larger institutions. Homatropine, paredrine, and 10% neosynephrine will give a dilation of the pupil which makes the actual extraction considerably easier. This is in contrast to some who fear a dilated pupil as inviting prolaps of the iris. This possibility, however, is much less nowadays with our techniques of suturing than in former times, and is the lesser of the two evils, if one considers that it might become very difficult to do a satisfactory extraction through a narrow pupil.

The technique of the actual surgical procedure in the last two decades has become more involved, and the percentage of success has increased. However, the variety of techniques, the device of ingenuous wound suturing by an untold number of colleagues and the description of brilliant methods of lens delivery have a bewildering influence on a surgeon who stands by himself and who is primarily looking for as safe a procedure as possible.

A few months ago Alvis made the statement before the St. Louis Ophthalmological Society that we would not need sutures, if we would know ahead of time that the patient would be well behaved, the operation uncomplicated and the adaptation of the flap undisturbed. Wessely of Munich expressed to me a year ago similar ideas and actually scoffed at the need of sutures, which, in his opinion, only aided to the trauma and complicated the surgery. At the same trip I saw Amsler at the great Eye Hospital of Zuerich use simple conjunctival sutures after a Graefe section and Lindner of Vienna turned to a colleague during the Congress in Havana two years ago during the showing of a movie on cataract surgery with one of our more advanced methods of closure and asked, "Why make it so complicated, if one could do it so simply?" American ophthalmology strongly insists nowadays on rather complete suturing, and the vast majority of oculists in this country are following these principles. Naturally, some of the European colleagues have unusual dexterity, which may substitute for the safety measures we look for in our work.

Originally I started out doing a full Graefe section with two conjunctival sutures. I still believe that a perfectly executed Graefe section is the least traumatic, the most rapidly healing and the smoothest type of incision. Unfortunately, it is by no means the easiest one, and I found myself having difficulties with incisions which were sometimes too shallow or at other times came out too far back in the sclera. Watching Castroviejo's and O'Briens' technique with Keratome incisions I switched to a prepared flap from above down to the limbus, followed by insertion of two scleral sutures parallel and almost at the limbus as described by Daily. A keratome incision is done, the double armed ends of the sutures are brought out through the conjunctival base at the limbus, and the section is enlarged with scissors. This is an easy mode of incision which can be controlled as to location and size, permits perfect hemostasis with the thermocauter previous to the section, and in most cases gives rise to very little astigmatism. The suture is not as elegant and fool-proof as the McLean type sutures which run through the wound lips in a prepared groove, but it is considerably easier, requires no trained assistance and is sufficient in the average case, even in cases of vitreus loss. I have had very few iris prolapses with it. The disadvantages of a limbus placed flap, keratome incision and enlargement with scissors are in my opinion in the greater trauma in the upper end of the limbus. Much swelling, even chemosis can occur and the resulting hyperemia is more prone to lead to anterior chamber hemorrhages on the fourth to the seventh day than a perfectly executed Graefe section. But in the hands of someone who does not handle a Graefeknife as a daily routine, the keratome incision has certain advantages, which make it suited for the occasional surgeon.

Most men in our large hospitals have turned to a small peripheral iridectomy or iridotomy. Although it may be merely a mental hazard or the unwillingness to let a mere nurse lift the corneal flap for me, I still feel safer with a complete iridectomy. I realize the disadvantages which consist of annoying bleeding from the iris pillars, the necessity of very careful replacement of the pillars after extraction and the possible light sensitivity of the patient after healing of the wound. But the lens is somewhat easier to deliver and in voluntary or unvoluntary extracapsular extraction, the cortical remnants are easier to be removed. Should a needling become necessary it is considerably easier in an area of a large coloboma than in a small round pupil, which may or may not be bound down by a multitude of adhesions.

The question of extra-or intracapsular extraction is for many no longer a question. The intracapsular extraction usually done by tumbling the lens is for them the only method acceptable, and any rupture of the lens capsule, planned or not planned, is called a complication. As long as we are dealing with immature cataracts this attitude is undoubtedly correct. To rupture a lens capsule in an immature cataract means frequently severe postoperative reaction, much more frequent necessity for discision with all its possible dangers; and even though I have seen quite a number of them recover very satisfactorily with practically normal vision, it is a very undesirable happening. To approach an immature cataract with a planned capsulotomy is faulty technique. Surgeons who are not familiar with one of the intracapsular techniques or are unwilling to expose themselves to a certain nervous tension during the intracapsular delivery, should leave these cases to someone familiar with the method.

Such a strong dogmatic statement should not be made for mature cataracts which give a perfectly satisfactory result when delivered by extracapsular extraction. Whereas the immature cataract molds its shape during its delivery, the large nucleus and the rigidity of certain types of mature cataracts make the intracapsular method more difficult than it is in the case of the immature one. The insistance on the intracapsular method by highly experienced teachers in the large centers regardless of the state of the cataract is probably highly successful in their hands and gives a high percentage of 20/20 vision. But I do wonder if this dogma and condemnation of extracapsular methods will not tend to lose some eyes in the smaller hospitals where many of the lesser experienced oculists are perfectly capable and safe in delivering mature lenses by the extracapsular method, but would lose vitreus in a much higher percentage if they attempted the rountine intracapsular surgery. For some of these men, extracapsular extraction of mature lenses will mean better, not worse results.

It has been said that there is no harm done in

planning everything intracapsular, as one can proceed extracapsularly when the capsule should break, which it does relatively easy in the mature types of cataract. This statement is not entirely correct. A planned capsulotomy gives the opportunity to break the capsule at the desired point and in the desired width. Lens cortex and nucleus are easily expressed and any remains can usually be washed out with no danger, as the remaining membrane forms a barrier between irrigator and hyloid. There are a few instances of large amounts of soft cortex with small nucleus which do not easily follow the irrigating water-stream, but they can be recognized beforehand on the slitlamp, and intracapsular extraction can be planned for them.

The accidental break of a lens capsule during the attempt of intracapsular extraction is not just a variation of the normal satisfactory extracapsular method. In such an accident we do not choose the spot or the width of the capsulotomy. The break usually occurs during the later stages of the extraction and not when the capsule is first grasped. This results in the following difficulties: First, the opening for the extrusion of lens material from the capsule sack is usually smaller and the expression of this material is not as easy and thorough as through a large capsulotomy opening. Second, the possibility of capsule remnants and cortical remnants being incaracerated between the wound lips is greater, as the break usually occurs when the lens is partially delivered. Third, irrigation is much more hazardous because in the lower half of the pupil there is usually no capsule membrane and only hyloid membrane covers the lower third or half of the pupillary opening.

To fish around in the anterior chamber for capsule remnants and cortex with a specially designed forceps is quite a hazardous procedure. There is no objection to grasp a capsule protruding from the wound lips onto the sclera. But introduction of a metal forceps after lens extraction seems to me a very hazardous procedure.

There are two types of cataracts for which the erysophace is usually recommended: For the intumescent type in which one cannot grasp the capsule there seems to be no other satisfactory choice, unless one resorts to capsulotomy which often leaves quite a lot of lens remnants and subsequent postoperative reaction. There is, however another type, the so-called milk cataract or overripe cataract with the nucleus either in place or sunk to the bottom, which in my experience has yielded excellent result with the extracapsular method and obviated the need for suction extraction. The liquefied cortex is emptied from the anterior chamber most readily, and the small nucleus usually follows without difficulty. Due to its small size and the lack of a satisfactory point for exerting pressure from below, it sometimes becomes entangled under the upper lip of the incision and requires patient and careful manipulation for its final extraction.

Kirby has recently pointed out that there should not be a double standard for cataract extraction and that the intracapsular method is his choice for all types, even for people with only one eye. The principles outlined above will, however, give satisfactory results in a large number of cases and with very few complications. Complications which do occur are, as long as one has to deal with them, less serious in the visual end result when an intracapsular has been performed and the pupillary opening is perfectly free from anything which could form adhesions and membranes. This goes especially for vitreus loss. Even after one has by premature loss of vitreus been forced to resort to the loop extraction, one is sometimes gratified to see a 20/30 end result after two or three months. Hemorrhage occurring on the fourth to seventh day is much less apt to disturb the final vision after an intracapsular extraction than if the blood finds a ready made mesh in the capsule remnants to form a membrane. These late hemorrhages sometimes are due to internal wound rupture. They are, however, much more frequently the result of a ruptured vessel in a very hyperemic eye with iritis and undue postoperative reaction. It is well understandable that the intracapsular method with its lesser postoperative hyperemia should statistically show less hyphema. I have seen a hemorrhage as late as five weeks after surgery following a late iritis and ending in a wide blood stain of the cornea.

Postoperative secondary glaucoma, so frequent after delayed reformation of the anterior chamber tends to become less frequent as our incisions are more carefully made and the sutures more exactly placed. Meyer in a paper before the Academy last year has given statistics to prove this point. With the scleral-conjunctival suture I have described the chamber reforms in the vast

majority of cases not later than on the fifth day. Air injection after five or seven days has been recommended. It is not always easy to do and often the air becomes absorbed. This absorption also takes place in air bubbles which one injects at the end of surgery and the air bubble does not remedy a poorly executed incision. The chamber may be formed for a few days, but with every dressing the bubble becomes smaller, and after a few days one may find a shallow chamber again. Proper incisions properly sutured most likely heal as well without the air bubble. The chamber reforms in due course.

Concluding these few outlines guiding us in doing surgery away from the larger centers, I feel that cataract surgery should be primarily safe surgery done conservatively according to the training, experience and skill of the individual surgeon. Strict dogma in insisting on the newest and most brilliant methods of recent years will yield highly satisfactory results in the hands of those who do such surgery in ideal surroundings many times each week. There are certain dangers, if rigid adherence to these methods is recommended to men who do not have such facilities and some of the less spectacular methods may, in their hands, prove more successful than if they would try every new technique which is proposed and substantiated by very desirable statistics. I still operate about 50% of my cases by the extracapsular method. It may be that we see more mature cataracts which makes such a procedure safe. Many country people do not seek medical advice until their vision has greatly deteriorated. Extracapsular extraction does not yield 20/20 vision as often as does intracapsular extraction. This was shown by the statistics of Hughes and Owens of Johns Hopkins Hospital and is also reflected in our statistic. But it is a safer method for the man who is an occasional surgeon. I obtained — in an average turnover of 50 cataract operations per year — the following percentage figures in unselected cases: 84% saw 20/50 or better, subdivided as follows: 31% saw 20/25 or better and 53% saw between 20/50 and 20/30. Sixteen percent saw below 20/50 as follows: 5% saw between 20/70 and 20/100, 6% saw from 20/100 to 10/200 and 5% saw less than 10/200. Among the cases with low vision are quite a number who had a satisfactory result as far as the cataract itself was concerned and who actually were considerably improved, but who had additional corneal or retinal pathology affecting their visual acuity.

BIBLIOGRAPHY:

Gailey, W. W. Report of 200 cataract operations. Ill. Med. Journ. 1937, Dec. 528.

Roper, K. L. Lancaster's technique of cataract extraction, Ill. Med. Journ. Feb. 1948

Nugent, O. B. Cataract extraction by the vacuum method. Ill. Med. Journ. May 1947

Bothman, L. Prevention and treatment of complications in cataract surgery. Ill. Med. Journal, March 1948.

O'Brien, C. S. Comparison of keratome-scissors and Graefe knife incisions for cataract extraction. Am. J. Opth. 26: 508: 1943

Castroviejo, R. Cataract extraction. Mod. Medicine, 1943, 11:73

Hughes, W. F. and Owens, W. C.: Extraction of senile cataract, a statistical comparison of various techniques. Am. J. Opht. 1945: 28: Jan.

Daily, R. Simple Technic for Closure of Cataract Incision Texas State J. Med. 42: 284: August 1946

It should be the policy of public relief agencies to augment the allowance of welfare families where tuberculosis is a problem to conform with the optimum diet for the tuberculous individual and the family contacts. The amount of general assistance given to these families is usually at or close to a minimum for basic requirements and it seems wise in the case of children to maintain this diet up through at least twenty years of age. The general situation in these families is such that there is need for special emphasis on diet to maintain as far as possible the highest level of resistance in the individual. Again, it is money well spent and in the long run less costly to the tax dollar than relapse or incomplete cures. Herbert R. Edwards, M.D., and Joyce Turner, Pub. Health Nursing, December, 1951.

A Plan for Training in Dynamic Psychiatry for State Hospitals

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The development of modern methods for the treatment of psychotic patients has given rise to a more optimistic outlook regarding their future. This change in attitude has come about not only as a result of the evaluation of recoveries and cures, but also because of the greater understanding of the schizophrenic and psychotic processes and the resultant improvement in the care and help given in hospitals. However, there were always conditions temporarily obscured or seemingly unimportant, which still tended to create, if not a pessimistic attitude, at least extremely serious consideration on the part of persons working with and treating the seriously mentally ill. In the interest of progress an objective evaluation of these factors is necessary from time to time, and if a discussion of them brings up some disquieting facts it also helps to open the door to methods for remedying many discouraging situations.

This paper concerns itself not so much with the shortcomings of modern shock and related therapies, which is a sobering challenge to psychiatry today, but rather with such matters as the psychiatric atmosphere prevailing in the usual psychiatric hospital devoted mainly to psychotic individuals, and especially with the atmosphere or life-pattern of these hospitals as they affect the psychiatrists who work there.

At this point I wish to ask the first question: What is usually the status of the professional morale of the psychiatrist in the state hospital? I need not add that the outlook, the feeling tone, and the motivations of the hospital personnel toward the patients is intimately bound up with and directly related to the professional morale of the psychiatric staff.

Whatever may have been the discouraging features of any psychiatric hospital, its physicians were encouraged and impelled to do their best by the possibility of getting large numbers of patients well, or at least ready for return to the community. In addition, in many of the more advanced states such as Illinois the physicians of the state hospitals were in the forefront of the research necessary to improve and refine shock therapy. This pioneer work, with the enthusiasm it aroused through helping very sick people toward recovery and the gratification at seeing them able to go back to their communities, carried most psychiatrists through many difficult times and enabled them to overlook many things. However, the early enthusiasm over shock treatment gradually waned. Much of the initial enthusiasm was based on the hope that insight would be gained into how shock achieved its effects, and that through this discovery we would be able to devise even newer and better therapies. But an explanation of how convulsive or coma therapies achieve their results has not been forthcoming.

With a view to counteracting the disappointing features of new therapies, may state hospitals, including those in Illinois, have for some time stressed the need for more training and education for their psychiatrists and more opportunities for progress and advacement in their careers. In Illinois, in particular, the alertness of the physicians themselves to the need for maintaining incentive and morale in the medical staffs, and their work to that end through such organizations as the Physicians Association, Department of Public Welfare, has at times led to gratifying results.

One of the chief reasons for writing this paper

Paper read at the Physicians Association Section of the Illinois Medical Society, Palmer House, Chicago, May 19, 1949.

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is to emphasize one facet of the psychiatrist's training as it relates to his professional morale and convictions, to the therapeutic conditions in state hospitals, and to the furtherance of therapeutic efforts for the patients.

I would like first to discuss rather generally some factors, constantly present but little emphasized, which make the work with and therapy of psychotic patients so difficult. First is the baffling changes and apparently unpredictable behavior in the psychotic individual. Secondly, one should remember that it is a very great strain on any fairly well-integrated or mature individdual to be with, become interested in, or involved with, or to have to treat, limit, or modify the behavior of individuals who are actually or potentially deeply regressed and whose primitive and aggressive energies are loosened or greatly in danger of being loosened. The unconscious effect upon the hospital personnel of constant contact and preoccupation with persons whose hostile, sexual, infantile (soiling, biting, sucking), and other impulses are directly expressed or close to the surface, and out in the open verbally, is such as to put a great strain on the adjustments and sublimiations of those who work with the psychotic. But it is not only the breakdown of some of his own patterns of adjustment, especially in the presence of the psychotic, which the hospital worker may unconsciously or consciously fear; in the presence of some patients he may also actually fear for his personal safety.

At this point I can do no better than to quote to you from Dr. Frieda Fromm-Reichmann[1] who says, l"It frequently happens that physicians, nurses and other institutional personnel are justifiably afraid of a psychotic patient because of threatening or assaultive behavior." So that here we have a situation in which the doctors or other therapists are afraid of the very persons whom they wish to help. This not only makes therapy more difficult, but increases the total strain on everyone in the milieu. One of the recommendations which Dr. Fromm-Reichmann makes stresses the fact that only more ideal hospital conditions can bring relief from such hazards to both patient and personnel. She advises, "Excepting active violence requiring physical control, it is best for psychotherapist and psychiatric nurses to stay away from patients of whom they are afraid; they are liable to manage the patient according to their fears and anxieties instead of being guided by the needs of the patient. I do not mean that psychiatric personnel should or could avoid being fearful of certain psychotic patients; . . . . . If, however, the member of the staff recognizes that there are unconscious reasons for his anxiety and he is able to overcome it by analyzing it, then it will not be necessary to replace him. If the psychiatrist or the nurse wants to continue to work with the patient despite fear, they should speak about it with the patient. Once he therapist is aware and not ashamed of his fear and is free to make it a topic of discussion with the patient, it does not necessarily interfere with his usefulness."

As a further indication of the difficulties of working with and helping psychotic individuals even under the best regulated and most favorable conditions, Dr. Fromm-Reichmann says, "It is important that the psychoanalytic (and I here add, almost any therapeutic)* work with every psychotic patient be supervised to avert complications of transference and countertransference (i.e., complications in the emotional reliving of experience on the patient's part with the therapist, the interfering and inappropriate emotional attitudes of the therapist's part toward the patient).* Such occur more easily than they do in the psychoanalysis of neurotics because modified psychoanalytic therapy of psychotics is still in a state of experimentation. The long duration of the treatment, the special intensity of the analyst's work, and the heavy emotional display in word and action on the part of some of the patients are additional items which invite transference and countertransference difficulties of a special quality and complexity." However, it is not only the fact of analysis, but the fact of psychosis which makes for these special difficulties. She goes on to say, "The psychotic's relationship with the psychoanalyst (and I may add, or any therapist)* and his empathic sensitivity to his environment and to the psychoanalyst's personality are often much more intense than the transference reactions of average neurotics. By the same token, he is more sensitive to and dependent upon the psychiatrist's and hospital's

[1]Frieda Fromm-Reichmann: Problems of therapeutic management in a psychoanalytic hospital. Psychoanal. Quart., 16:325-355, 1947.

*Writer's interpolations.

attitudes and judgments than is the average healthy or neurotic person in our culture towards the attitudes of his fellowmen."

Later, in the same paper she says, "To remain alert, spontaneous, and yet cautious continuously for many hours with a rigid and poorly communicative person is an extremely fatiguing experience. The psychiatrist should not avoid fatigue in the pursuit of his professional duties, but he must be able to keep free from resentment toward the patient and must learn to avoid undue expectations or demands as to its therapeutic results."

Enough has been said here, I believe, to bring out some of the factors of strain constantly present, too little explored and dealt with, which make work with psychotic patients and other personnel a great problem — a problem which affects the physician's interest in and hope for the improvement of his patients.

This paper began by stressing the importance of evaluating the factors which discourage psychiatrists in their efforts to get psychotic patients well in the state hospitals. In discussing the factors which affect morale, other influences were bypassed such as the limitations of shock therapies, personal morale, the saddling of physicians with administrative or trivial duties, limitations of untrained personnel, and interference by administrative personnel who have other goals than getting the patients well. Not the least of these handicaps is the lack of contact with current medical thought because of geographic isolation and because professional societies do not concern themselves enough with state hospital problems such as the long hours, difficulties of advancement, and a host of other problems. These questions have been passed over in the discussion of hospital and doctor morale even though they are extremely important for the reason that these physicians are extremely conscious of them. They are not given consideration here because, while the resolution of these problems might make the physician more contented, it would not necessarily increase his interest in the therapy of the psychotic, and we are primarily concerned here with the psychiatrist's morale as it affects his attitudes to the psychotic individual and his efforts at understanding and resolving the difficulties of relationship and therapy per se.

For the state hospital to be a therapeutic and happy community and the psychiatrist to be a well-adjusted and fairly contented individual, hopeful of the outcome of his work, it is imperative that he be interested in psychotics and that he get such satisfaction from his work as to outweigh the strain and the special difficulties of working with these patients. This condition demands certain abilities in the physician and a belief in the effectiveness of his work as demonstrated in results. Implied in such requirements is the necessity for greater understanding of what is happening with the psychotic. This realization has led to a much greater interest in dynamic psychiatry on the part of hospital doctors, and especially in psychoanalysis. A goodly number of state hospital psychiatrists have begun psychoanalytic training not only for personal reasons but to aid them in understanding and treating all human mental pathologies. The difficulty they have encountered is that most psychoanalytic training centers are not particularly concerned with psychotic individuals and are not capable of training the doctor for hospital work.

The psychoanalytic approach to psychotics, especially as exemplified in the work of such hospitals as the Menninger Clinic, Chestnut Lodge, and The Haven results in a greater total understanding of the psychotic even in respect to his most bizarre, unrelated, or most symbolic behavior or productions. It affords greater skill in management where understanding and individual analysis and experience have combined to suggest new techniques or refinements in hospital care. It has thrown new light upon such puzzling factors as the psychotic's paradoxical reactions to admission, to the changing of wards, his concepts of freedom and independence, and his use of privileges. The management of outbursts, threats to personnel, the use of two therapists with each patient (psychotherapist and administrative therapist), the psychological meaning of shock therapy, possiple factors in shock of psychotherapeutic recoveries — these and a host of others are all problems in which the analysts have made some extremely practical, apparently therapeutic, and very challenging contributions.

For these reasons it is suggested here that psychoanalysis be utilized further in state hospitals through two different approaches. One method, not new and made use of to some extent by the Elgin State Hospital, is to utilize the services of psychoanalysts as part of an organized

program in which they act as consultants and teachers in the hospital. What is in mind here, however, is that the consultations and teaching shall deal with psychotic problems rather than with the usual analytic problems.

Secondly, it is suggested that some of the analyzed persons, not only doctors but also nurses and other personnel, be sent for at least one year's training to such hospitals as the Menninger clinic, or Chestnut Lodge, at the expense of their own institutions. This is on the assumption that some arrangement could be made with such hospitals whereby the trainees would be acceptable to them because of the services they would render while in training there (in some sort of Fellowship capacity). Because of the expense to our own institutions in such an undertaking it would only be fair to our Department should sign a contract that in return for such of Public Welfare that an individual so trained training he would agree to remain for at least two years in the hospital from which he was sent and that he would teach the personnel there the procedures he had learned and the techniques acquired.

A consultative and Fellowship program of this type which made use of consultants and institutions of excellent standing, but not necessarily psychoanalytic in orientation could also be valuable. This recommendation is made in terms of psychoanalysis because the writer feels that the psychoanalytic technique of managing psychiatric hospitals and treating psychotics seems difficult to our hospital personnel only because it is new and unfamiliar to them.

Such a program, while involving some investment, would bring many therapeutic and tension-relieving innovations to our attention which could be adapted to our own hospital milieus. It would at the same time be of great benefit to the hospital personnel by increasing their understanding of psychotics, since all that the few initial individuals gained and learned could be transmitted to the many.

It is quite possible that the methods and results at such institutions as Lincoln and Dixon, which care for mentally defective and epileptic children, could be greatly improved by sending a few of the staff for special training to such outstanding institutions as Vineland.

In the last few years it has been largely the newer physicians who have benefited most through the training program of the state hospitals in Illinois. If a program like the one just outlined were adopted it would seem advisable to offer the opportunities for this special training to the physicians of longer tenure, providing their ability, experience, and training have fitted them for such a special assignment.

A group of psychiatrists who had been specially trained in the psychoanalytic hospital would not only afford a nucleus of teachers who would improve hospital methods and management along dynamic lines, but they might also form a group for the much needed study of the effects of shock therapy from the dynamic standpoint.

It might be added here that probably some of the staff who go to analytic hospitals for training should be administratively trained as well as analyzed individuals.

In conclusion, what is proposed is that the state hospital psychiatrist, because of the difficulties of his work, needs not only better hospital and career conditions, but also requires a philosophy of work and a greater insight into the enigma of psychosis. Psychoanalysis can greatly aid him in gaining such a philosophy and enlightenment. In addition, the special training of some psychoanalytically developed doctors, nurses, and other personnel in the best psychoanalytic hospitals would not only bring psychoanalytic understanding and traditions to state hospitals, but would increase our understanding of, and skills with, psychotic individuals.

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CASE RECORDS OF THE COOK COUNTY HOSPITAL

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A Case of Fatal Thyroid Crisis Occurring After Radioactive Iodine Therapy

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Means[1] has defined thyroid crisis as "a life endangering augmentation of the symptoms of thyrotoxicosis in which the patient's response is out of proportion to the exciting stimulus." Surgical and diagnostic procedures, digitalis intoxication, infections, and psychic shock have been considered as potential precipitating factors.[2,3,4,5] More recently it has been observed that treatment of severe thyrotoxicosis with radioactive iodine may be followed by thyroid crisis.[6]

It is only during the last few years that I^{131} has been utilized in treating certain types of toxic goiter in appreciable numbers. The most frequently observed complication of this form of therapy has been hypothyroidism.[7,8] However, several investigators have observed that an increase in the symptoms of toxicity may occur about a week after the administration of a therapeutic dose of "radioactive iodine".[1319,10,11,12] This was particularly true of the severely toxic patients. When treated cases were followed with serial protein-bound iodine determinations, a distinct rise in this element was demonstrated, with a peak at about the seventh day.[9,13] Williams[6] measured the protein-bound radioactive iodine serially in a group of treated cases and found the maximal concentrations between the fifth and twentieth days after the therapeutic dose. Feller,[14] working with rats, was able to plot a triphasic response to large doses of radioactive iodine: (1) a fall in protein bound iodine during the first 24 hours, followed by, (2) a rise

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with a peak on the third day, and finally, (3) a decrease in protein-bound iodine to thyroidectomy levels.

The clinical implications of these observations, we believe, have not received sufficient emphasis in the current literature. The case presented here is the first, to our knowledge, of fatal thyroid crisis following radioactive iodine therapy.

Case Presentation.—A 44 year old Philippino male was admitted to Cook County Hospital on September 1, 1951, complaining of bulging of the eyes, weight loss and swelling of the ankles, all of five weeks duration. Questioning revealed that the weight loss had occurred despite a vigorous appetite. He stated that warm weather had become so unbearable to him that on hot days he had to stay home from his work as a leather cutter in a baby carriage factory. Associated with swelling of the ankles he had noted dyspnea on exertion. He was also aware of nervousness, hand tremor, and an irregular, rapid heart action for five weeks.

He had recently consulted a physician who told him he had heart trouble and gave him digitalis and "shots". Previous history included a cholecystectomy in 1930 and a supracondylar amputation of the right leg in 1943 due to residual deformity following an old injury.

Physical examination revealed a small, wiry, Philippino male with rapid, quick movements. He was cooperative and intelligent. The pulse rate was 126 and irregular, the blood pressure was 150 systolic and 70 diastolic, the temperature was 98.4°F., and the respiratory rate was 24 per minute. The eyes evidenced a marked stare with lid-lag, lid tremor and widened palpebral fissures. The neck veins were distended and the carotid vessels pulsated rapidly and forcibly. There was fullness over the thyroid area and the gland was diffusely enlarged to palpation, soft and symmetrical; and the weight was estimated at 45 grams. There were pea-sized posterior cervical lymph nodes as well as small, firm axillary and inguinal nodes.

The chest was symmetrical and in the lower fourth of the right chest posteriorly the breath sounds and tactile fremitus were diminished. There was dullness to percussion over this area.

The heart was beating rapidly and irregularly with an apical rate of 150 beats per minute. There was cardiac enlargement with the apex palpable in the anterior axillary line in the fifth intercostal space. No murmurs were noted. The abdomen was moderately distended and shifting dullness was demonstrated in the flanks. The liver edge was palpable 5 cm. below the costal margin in the right mid-clavicular line. There was an old, healed paramedian scar 15 cm. in length in the right upper abdominal quadrant. There was slight penile and scrotal edema. Pitting edema extended up to the groin. The right leg had been amputated above the knee. Rectal and neurological examinations were normal.

The clinical impression was that of thyrotoxicosis with thyrotoxic heart disease and decompensation.

Laboratory data included an essentially negative urinalysis; negative stool benzidine; hemoglobin 80%; 4,270,000 red blood cells; and 6,400 white blood cells with 68% polymorphonuclear cells, 2% eosinophiles, 26% lymphocytes, and 4% monocytes. A blood Kahn was negative; the non-protein nitrogen was 34 mg.%; and the total cholesterol was 130 mg.%. A chest x-ray disclosed increased diameter of the heart with some straightening of the left heart border. There was an increased density in the right base curving upward to the lateral chest wall. The superior mediastinum was not widened. An electrocardiogram showed a ventricular rate of 145 beats per minute with auricular fibrillation. The T waves were flat to diphasic in all leads. The basal metabolic rate was plus 44 and the radioactive iodine tracer study revealed 85% uptake by the thyroid gland in 24 hours.

The patient was treated with maintenance digitalis, bed rest, and phenobarbital sedation. He was given subcutaneous injections of mercuhydrin with excellent diuresis and rapid dissolution of the edema fluid. He remained afebrile.

On September 5, 1951, he was given a therapeutic dose of 5 millicuries of I^{131}. The patient was restless and impatient with hospitalization and had to be coaxed to remain in the hospital. He was discharged upon his insistence on September 7, 1951, to be followed in the radioactive iodine follow-up clinic.

On September 12, 1951, seven days after I^{131} therapy, he reported to clinic appearing jumpy, sweaty, moderately tachypneic, and with pitting ankle edema. The heart rate was 150 and irregular. He denied having a sore throat or hoarseness. He was given Lugol's solution with

instructions to take 10 drops three times daily and was given I cc. of mercuhydrin subcutaneously. He was instructed to stay in bed and return to clinic in one week.

The patient lived alone in a room in a boarding house, and the following day (September 13, 1951) his landlord called to report that the patient was violently ill with vomiting and diarrhea. He had been taking his medicine (Lugol's solution), but vomited shortly after ingesting any food or liquid. Immediate hospitalization was advised.

Approximately 30 hours later the patient was brought to the hospital ward in a pre-terminal, irrational state. The oral temperature was 103°F. and the respiratory rate was 40 per minute. The pulse rate was 140 and the blood pressure was 90 systolic and 60 diastolic. Pupillary and deep reflexes were absent. Respiration was labored, and coarse rhonchi were audible. The patient was placed in shock position and given oxygen by nasal catheter, seven and one-half grains of sodium amytal intravenously, thirty grains of aspirin in the rectum, and 100,000 units of aqueous penicillin intramuscularly. The patient failed to respond and was pronounced dead two hours after admission and nine days after radioactive iodine therapy.

Autopsy Examination.—Autopsy revealed a well developed Philippino male with a supracondylar amputation of the right leg. The thyroid weighed 50 grams and was symmetrical, firm, and meaty in appearance. The thymus was enlarged and weighed 31 grams. The heart weighed 475 grams and showed left ventricular hypertrophy. The valves and endocardium were smooth. The coronary arteries were patent but showed an occasional atheromatous plaque. There was a right hydrothorax and pronounced pulmonary edema and congestion. The apex of the right lung contained an old healed tuberculous scar. There was passive congestion of the abdominal organs and edema of the brain. The adrenal and pituitary glands showed no gross abnormalities.

Microscopic study of the thyroid gland revealed high columnar epithelium lining the acini with papillary projections in some areas. The acini were depleted of colloid. A few small foci of lymphocytes were noted. In the heart there was wear and tear pigment in the myocardial fibers at the poles of the nuclei. In the lung a few heart failure cells were present in the alveoli. The lobular pattern of the liver was well preserved. The sinusoids were congested especially in the subcapsular areas.

COMMENT

The high grade of thyrotoxicosis and the velocity of its development with thyrocardiac complications in this case may have led to thyroid crisis under any therapeutic regime. Its occurrence at the precise time following radioactive iodine therapy when we[15] and others have witnessed an increase in thyrotoxic symptoms makes the association appear significant and indicates that this therapy acted as a factor.

It has been our policy to place severe thyrotoxic cases, treated with radioactive iodine, on compound solution of iodine alone or in combination with propylthiouracil. This is often necessary to control toxic symptoms during the 2 week to 4 month period before radiation produces remission. In addition, we recommend daily observation during the critical 2 week period following I^{131} therapy when a dangerous exacerbation of toxicity might occur. In selected patients with marked toxicity and limited cardiac reserve preliminary control with propylthiouracil may be indicated before radioactive iodine therapy.

SUMMARY

A case of fatal thyroid crisis occurring 9 days after treatment with radioactive iodine is presented. In severe thyrotoxic cases careful observation and control of toxic symptoms is urged during the critical period following I^{131} therapy.

BIBLIOGRAPHY

1. McArthur, J. W., Rawson, R. W., Means, J. H., and Cope, O.: Thyrotoxic Crisis, An Analysis of the 36 Cases Seen at the Massachusetts General Hospital During the Past 25 Years, J.A.M.A. **134**: 868-874, (July 5) 1947.
2. Bayley, R. H.: Thyroid Crisis, Surg., Gynec. & Obst. **59**: 41-47 (July) 1934.
3. Fiske, F. A.: Thyroid Crisis as a Post-operative Complication, Tr. Am. Therap. Soc. **40**: 133-139, 1940.
4. Lahey, F. H.: The Crisis of Exophthalmic Goiter, New England J. Med. **199**: 255-257 (Aug. 9) 1928.
5. Ranson, H. K. & Bayley, R. H.: Thyroid Crisis, West. J. Surg. **42**: 464-475 (Aug.) 1934.
6. Williams, R. H., Towery, B. T., Harbert, J., Rogers, W. F., and Tagnon, R.: Radiotherapeusis, Am. J. Med. **7**: 702-717 (Dec.) 1949.
7. Chapman, E. M., and Evans, R. D.: The Treatment of Hyperthyroidism with Radioactive Iodine, J.A.M.A. **131**: 86-92 (May) 1946.
8. Werner, S. C., Goodwin, L. D., Quimby, C. H., and Schmidt, C.: Some Results from Use of Radioactive Iodine, I^{131}, in the Diagnosis and Treatment of Toxic Goiter, Am. J. Roentgenol. **63**: 889-894 (June) 1950.
9. Williams, R. H., Jaffe, H., Rogers, W. F., Jr., Towery, B. T., and Tagnon, R.: Reciprocal Relationships of

Radioiodotherapeusis and Thyroid Function, (Abstract) J. Clin. Investigation **27**: 562-563 (July) 1948.
10. Moe, R. H., Adams, E. E., Rule, J. H., Moore, M. D., Kearns, J. E., Jr., and Clark, D. E.: An Evaluation of *Radioactive Iodine in the Treatment of Hyperthyroidism*, J. Clin. Endocrinol. **10**: 1022-1027 (Sept.) 1950.
11. Soley, M. H., and Miller, E. R.: Treatment of Grave's Disease with Radioactive Iodine, M. Clin. North America **32**: 3-17 (Jan.) 1948.
12. Chapman, E. M., Skanse, B. N., Evans, R. D.: Treatment of Hyperthyroidism with Radioactive Iodine, Radiology **51**: 558-563 (Oct.) 1948.
13. Riggs, D. S.: Elevation of Serum Protein-Bound Iodine after Large Doses of Radioactive Iodine, Federation Proc. **7**: 251, 1948.
14. Feller, D. D., Chaikoff, I. L., Taurog, A., and Jones, H. B.: The Changes Induced in Iodine Metabolism of the Rat by Internal Radiation of Its Thyroid with I^{131}, Endocrinology **45**: 464-479 (Nov.) 1949.
15. Unpublished Data, Radioactive Iodine Study Group, Cook County Hospital and Hektoen Institute for Medical Research.

WHO WINS TONIGHT?

It was the evening's tag-match event, and while two of the wrestlers paced restlessly along their assigned area of ring apron, their respective partners were sprawled in mortal combat. At the moment, a bearded giant was busily engaged in dismembering his opponent. The latter, a good-looking blond Adonis, was truly in a bad way. He was helplessly pinned to the rough canvas, his handsome face, now distorted by pain and rage, being pressed into the grime and rosin of the mat. A hairy knee was solidly clamped in the region of his lumbar spine. With his left arm he kept beating a furious stacatto on the canvas, a bitter S. O. S. in protest to the inhuman treatment being accorded his right arm.

This extremity was firmly gripped by the Bearded One and was being painfully forced upward and back . . . back . . . back—defying all the laws of joint physiology. In this vice-like grip, his fingers were turning a dusky blue while the skin about the shoulder joint, which now appeared ready to jump its socket, was assuming a dead, gray-white hue.

Suddenly, mustering superhuman strength, the Blond managed to free himself. Even the Beard registered genuine surprise at losing his quarry. Everyone in the arena fully expected to see him still clutching the arm of his escaped opponent.

While the other member of the tag team rushed in to engage the victorious Beard, the beat-up Blond could be seen staggering toward the club's physician. In a flash, the doctor hastened to his aid, and if those fans nearby had been listening, they would have heard the following conversation:

"Here, man, let me take a look at that arm."

"Forget the arm and do us a favor, Doc. We are all snafued in there. Nobody seems to know the score. So while Joe is in there keeping things going how about you asking the boss what team is supposed to win tonight?"

And that characterizes the modern sport of wrestling as it is staged today. How do I know? Well, I was the doctor referred to in the above incident. *Excerpt: Wrestling As A Theatrical Art, Edwin I. Poole, M. D., GP, Jan. 1952*

The methods of tuberculosis control may have changed as science has progressed and the epidemiology of the disease has become modernized; the need for continuing the fight remains constant, and financial support in the battle is necessary as never before. Tuberculosis still remains a major health problem, still causing more deaths, even in the United States, than all other infectious diseases combined. Significant is the fact that the decline in the death rate from tuberculosis has not been matched by a decrease in the number of new cases; treatment has made more effective progress than has control of the spread of the infection. Editorial, New England J. of Med., November 22, 1951.

Every general hospital can speed the ultimate eradication of tuberculosis in this country by adopting its own tuberculosis control program. This program should emphasize at least three features: routine admission chest X-ray films for all patients and periodic chest X-ray films for personnel; isolation precautions for patients with sputum containing acid-fast bacilli; and provisions for prompt therapy of all patients found to have active pulmonary tuberculosis. No matter how large or how small the general hospital, it can find a form of routine X-ray examination best suited to it. Indeed, if a general hospital is to provide adequate medical and surgical service to its patients, it must have some type of admission chest X-ray inspection. Sydney Jacobs, M.D., Diseases of the Chest, November, 1951.

CASE REPORTS

Traumatic Diaphragmatic Hernia Complicated by Acute Traumatic Pancreatitis

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Although, in a survey of publication during the last ten years, many cases of acute traumatic pancreatitis and traumatic diaphragmatic hernia were found, the two conditions have not been described co-existing in spite of the fact that similar injuries cause both. Less than two hundred cases of acute traumatic pancreatitis had been reported up to 1948[1] although after that time more cases were reported due to this high incidence of injury during the war. Diaphragmatic hernia is evidently more common in occurrence, having been reported in 378 cases up to 1925[2] and more frequently after that. The present high frequency of crushing injuries to the particular area involved would seem to indicate that both conditions might be suspected in all accident cases of this type.

The case presented below was diagnosed originally as a diaphragmatic hernia, so that it was not until the thoracic cavity was opened that pancreatic injury was seen. The patient was in poor condition. Hence, the preoperative care would not have varied had the pancreatic condition been noted. Earlier operation usually is performed in cases of traumatic hemorrhage pancreatitis but only when conservative standard physiological methods fail[3].

On 12-10, a white male, age 23 was admitted to the hospital for treatment following a motorcycle accident 5 days previously in which he received severe contusions in the epigastrum and left lower thoracic wall. Physical examination revealed evidence of toxicity, temperature of 102 degrees F., pulse 110, and abdominal distension. On percussion of the thorax tympany was noted over the cardiac region anteriorly; the breath sounds were absent in the left lower thoracic region with limited expansion of the left thorax. The abdomen was rigid and distended; deep palpation was impossible. There was a fracture of the left humerus. Roentgen examination the next day revealed a left diaphragmatic hernia with eventration of the stomach and left transverse colon. (Figures. 1 and 2) Electrolytes, fluids, and blood were given intravenously and antibiotics administered. On 12-12 the patient

was operated upon by Richard Davision. The left thorax was opened via a posterior lateral incision and the seventh rib resected. The ruptured spleen was removed and the pancreas, stomach and colon replaced in the abdominal cavity. The pancreas revealed evidence of pancreatitis and there was fatty necrosis of the omentum. The rent in the diaphragm was closed; two water seal rubber drains were left in the wound. The left area was splinted. On 12-22 the urinalysis was essentially negative. The hemoglobin content of the blood was 58%, RBC 2,700,000 and WBC 24,100. The differential of lymphocytes 15, large monocytes 2, polymorphous neutrophils 79, and eosinophils 4. The postoperative course was stormy; the patient was toxic and developed a paralytic ileus. Blood transfusions, electrolytes and intravenous fluids were given; intestinal suction was instituted. The patient expired thirteen days postoperative. An autopsy revealed general peritonitis with fat necrosis of the omentum; there was a nearly complete digestion of pancreatic tissue with calcium soaps (Figure 3).

Summary: The differential diagnosis of abdominal injury should include the consideration of acute hemorrhagic pancreatitis and diaphragmatic hernia. Surgical treatment of the latter condition should be instituted early and should be supplemented by continous suction drainage thru an Abdominal incision if there are pancreatic lesions. These two conditions evidently coexist very rarely.

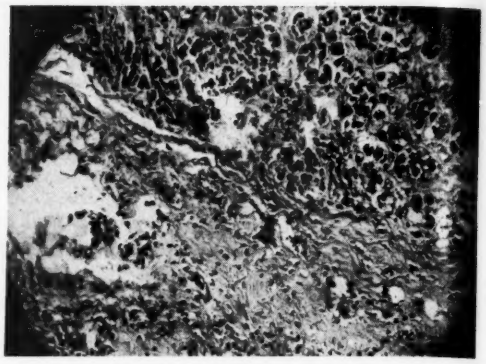

Figure 3. Microphotography of pancreas tissue removed at autopsy (see text).

Acknowledgement is made by the authors for the help of W. B. Gerhard M.D. in the preparation of this article.

BIBLIOGRAPHY

1. Comfort, M. W., J.A.M.A., 115: 2044-5 Dec. 14, 1940.
2. Hedblom, C. A., J.A.M.A., 85: 947, 1925.
3. Morton, J., and Widger, S., Ann. Surg. 111: 85;-63, May, 1940.

Figure 1. X-ray taken on 12-11. Plain film of chest (see text).

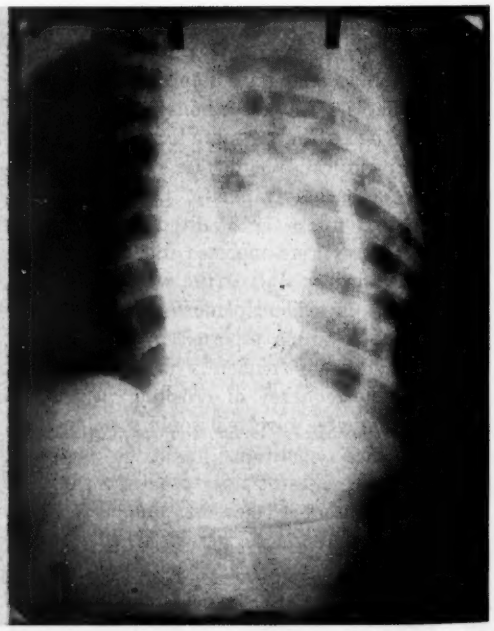

Figure 2. X-ray taken on 12-11. After barium meal (see text).

Dermatitis Medicamentosa in the Newborn

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Cutaneous eruptions in the newborn are quite common but occasionally the etiology is obscure. The following two cases are reported as being due to maternal internal medication.

A baby boy, K.T., was seen four hours after delivery because of a widespread eruption already present at birth. It consisted of a discrete erythematous papular rash symmetrical in distribution and involving the whole body except the scalp, oral mucosa and the plantar and palmar surfaces. The lesions averaged 2.3 mm. in diameter. The baby was in excellent health.

The immediate concern was whether the drug rash was one of the exanthemata as measles, chicken pox or scarlet fever. Then the toxic erythema group was considered. The differential diagnosis is not too difficult by keeping in mind the possibility of a drug eruption. In this respect we followed the diagnostic procedure of McKee and Cipollaro.[1]

As there was no fever and there was obviously no systemic disease, the drug factor was immediately considered. The mother had been taking a "nerve" medicine containing sodium bromide. The provisional diagnosis of bromoderma was made; further clinical and laboratory studies confirmed this opinion. The mother had had no intolerance to this drug. Some of the lesions became pustular and the entire eruption faded gradually in ten days time.

A baby girl, D.E., was born with a diffuse widespread purplish erythematous eruption involving mostly the trunk. There were also a few scattered papules on the other areas. The baby had no fever and was not toxic in appearance. The mother told of being treated for a series of convulsions with "neurosine." This preparation contains equal parts of sodium, potassium and ammonium bromides as well as hyoscyamus, belladonna, cascara sagrada and extracts of hops. She had taken twelve ounces and the last dose was consumed eight hours before the birth of the child. Two days previously she had also taken dilantin sodium and phenobarbital. It was deemed a dermatitis medicamentosa and the rash was typical of a phenobarbital sensitivity. As the baby was not breast fed, of course, no more of the medicine was ingested; the eruption disappeared in about five days time.

The final proof that *an eruption is caused by a drug* is based upon the reproduction of the eruption by the administration of the suspected drug after the complete subsistence of the original lesions. An eruption of a certain type may be produced by a number of different drugs. Some eruptions are so typical that the responsible drug can be immediately identified. Of course, a single drug may produce eruption of various types. Becker and Obermayer[2] point out rather vividly the different types of eruptions that can be produced.

CONCLUSION

Two cases of dermatitis medicamentosa in newborn babies are described. One was due to bromide and the other to phenobarbital. The diagnosis is simplified by keeping constantly in mind the possibility of a drug sensitivity.

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BIBLIOGRAPHY

1. McKee, George M. and Cippollaro, Anthony C., Skin Diseases in Children, Ed. 2, New York, Hoeber, 1946.
2. Becker, S. William and Obermayer. M. E., Modern Dermatology and Syphilology, Philadelphia, Lippincott, 1940.

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Alcoholic Cirrhosis Simulating Idiopathic Polycythemia Vera

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This patient, a 69 year old business executive presented the following complaints 17 August, 1950: increased ruddiness of his facial complexion, and thumping in his head which made sleep difficult. He had been told it was due to high blood pressure. His blood pressure was 160/90. His face had a purple reddish hue and his sclera and mucous membranes were injected.

The chief laboratory findings were: Hgb 120%, rbc 7plus millions, normal appearing rbc's, hematocrit 55, albuminuria and hyaline casts. It was thought at this time that the patient was suffering from polycythemia vera and chronic glomerulonephritis. As he wished to have the diagnosis confirmed by a clinic in Pennsylvania, no further studies were made and treatment was withheld for the consultant's benefit.

The latter agreed with the diagnosis of polycythemia vera and withdrew three pints of blood during the patient's 2 weeks hospitalization before the thumping and ruddy facial complexion subsided. He was returned to my care with the recommendations to withdraw more blood as indicated and avoid all nutritious blood forming foods.

After loosing 3 pints of blood the patient looked weak and I was reluctant to persist in this line of treatment — especially since his blood smear was beginning to show an occasional abnormal myelogenous cell. More detailed history revealed that this man was a regular imbiber of alcoholic beverages, although never to excess. During the last several years he has noticed bleeding of his gums and dilated blood vessels of his face, suggestive of avitaminosis associated with chronic alcoholism. Physical examination revealed a palpable liver and spleen, and several discharging gum infections. The left tonsil exuded pus when its anterior pillar was retracted.

Bromsulfonthalein function test indicated a 40% normal function. Prothrombin, bleeding and coagulation times were all prolonged. The diagnosis was changed to cirrhosis of the liver and the treatment instituted for this condition was quite different from that which was originally planned.

Alcohol in any form was eliminated from his diet. The diet given was low in fat, high in protein, carbohydrate and vitamins. To assure adequate vitamin intake, he was given 50 mgm vitamin B 12, 10 mgm folic acid, 20 USP units of liver parenterally three times weekly; and 4000 mgm vitamin C, 16 tablets of B complex, 400 mgm vitamin E, 2 mgm vit K, 3 gm

The response was dramatic. No more blood letting was necessary, his abnormal blood picture gradually returned to normal and the albuminuria subsided to a trace. After about 3 months of the above therapy, his liver function tests showed 60% normal function and his prothrombin, bleeding and coagulation times were only slightly prolonged. Recently the patient was given several vials of lipo adrenal cortical extract over a period of 2 weeks with still some further improvement. Penicillin and chloromycetin were given for about 10 days with no changes in the urine. In spite of about 1 year of the above medical regimen, he still had hyalin casts and 1 plus albuminria, but no pus cells. I was rather hesitant to remove the infected tonsils because of his bleeding tendency. One year ago he bled for 2 days from a tooth extraction. Two weeks ago, after removal of a large sebaceous cyst, he developed a one-third pint sized hematoma, requiring evacuation and a second closure.

Since the medical management had apparently reached a plateau and the albuminuria was becoming somewhat worse, I decided to risk tonsillectomy. This yielded gross pus, but no bleeding after 15 minutes. Two hours later I was called to see the patient because of difficult breathing. He was ashen grey, sweating, in ob-

vious respiratory difficulty and impending shock. Oral examination revealed a pharynx full of clotted blood. The clot was removed and both tonsillar fossae packed and firmly held to control the general oozing. He was given 10 mgm vit K, 10 cc of 10% calcium gluconate i.v. and 30 cc of ceanothyn and 4 capsules of aureomycin orally. After 2 hours, the oozing stopped. That evening I was again called to see him for respiratory difficulty — this time it was due to severe edema of the tonsillar regions. He was placed in a refrigerated, humidifying oxygen tent with dramatic relief obviating emergency tracheotomy. Two days after tonsillectomy the urine was clear and has remained so. His bromsulfonthalein liver function test, prothrombin, bleeding and coagulation times have all returned to normal. All facial and conjunctival injection have disappeared and his blood pressure was 120/80 on discharge—17 Sept. '50.

He remained well until July 14, 1951, at which time he was re-admitted for osteomyelitis of his left tibia. This developed after he struck his leg accidentally with a hammer. Bed rest, elevation of the leg and 200,000 u regular penicillin q 3 h produced improvement, but tenderness and swelling persisted after 10 days. His old condition started rearing its ugly head in the form of abnormal myelogenous cells, leucocytosis of 50,000, and hemoglobin of 115%. X-rays of the bone revealed an area of decreased density over the tender area and it was decided to drill the cortex for intramedullary instillation of penicillin and establishment of drainage if any should occur. Recovery was uneventful. He was discharged 3 weeks after surgery.

CIRRHOSIS FROM HEPATITIS

It has been suspected for many years that chronic liver disease might result in a certain number of cases with a past history of acute viral hepatitis. The exact incidence of this complication of acute hepatitis is not known, but there seems to be little doubt that chronic liver disease results in a definite number of patients as a sequel to acute hepatitis. If one were to follow a known group of patients with acute viral hepatitis, over a period of six to ten years, one might not be impressed with the number of patients who would develop chronic liver disease. A few such studies have been undertaken and it has been found that after a period of five years such cases number less than one per cent of the total. If, on the other hand, one were to see a large number of cases of chronic liver disease one would be distinctly impressed with the number of such cases that appeared to stem from a previous bout of acute viral hepatitis. Thus, in the course of study of acute viral hepatitis, there has been recognized a group of cases with persistent or intermittent symptoms and findings lasting for months or years after a bout of acute hepatitis. The course of such patients is variable; some apparently go on to complete recovery while others manifest a chronic downhill course, ultimately resulting in death. *Excerpt: The Diagnosis of Chronic Viral Hepatitis, Victor M. Sborov, M.D., Maryland State M. J., Feb. 1952.*

PATHOLOGY CONFERENCES

EDWIN F. HIRSCH, DEPARTMENT EDITOR

Clinicopathologic Conference
Wesley Memorial Hospital
Edited by J. C. Sherrick, M.D.

CASE 3104

This 60 year old white male janitor was admitted to the hospital because of jaundice of four days duration.

PRESENT ILLNESS: The patient was well until about one month before admission when he noticed easy fatigability. One week before admission anorexia and mild diarrhea developed and about 4 days before admission the urine became dark. He had no fever, chills, or abdominal pain. There had been a loss of 2 pounds in weight in the week before admission. His family physician told him he was jaundiced and recommended hospitalization.

PAST HISTORY: The patient had had the usual childhood diseases. A traumatic amputation of the left finger occurred 10 years before admission. Tonsillectomy had been performed on two occasions. The patient was told he had syphilis 5 years before admission and he had received two courses of injections, the last four months before admission. He stated that he did not drink alcoholic beverages, but that he had, in the past, ingested as much as one quart of whiskey daily. Three and one-half months before admission he suffered injuries consisting of four fractured ribs in the left chest and a fracture of the left wrist in a fall from a ladder. He was admitted to another hospital where he received many hypodermic injections and one unit of plasma. After about one month's stay in the hospital he was discharged and returned to work.

PHYSICAL EXAMINATION: Temperature 99.6 degrees F., pulse 84, respirations 20 and blood pressure 124/60 mm. Hg. The patient was a small, well nourished 60 year old white male who appeared chronically ill. There was jaundice of the skin, sclerae, and mucous membranes. The pupils were small, round and equal. They reacted on accommodation but not to light. The lungs were normal. The heart was not enlarged. A harsh grade ii systolic murmur was heard at the mitral area, and a soft systolic murmur which was transmitted to the neck was heard at the base. The liver edge was palpated 4 fingerbreadths below the right costal margin and was blunt, smooth, and slightly tender. The spleen was not palpated. The neurological examination was not remarkable. There was no edema.

LABORATORY DATA: The urine was acid and the specific gravity was 1.025. There was a trace of albumin and no sugar. Bile was present, urobilinogen was absent, and the sediment was normal. The erythrocyte count was 4,100,000 per cu. mm., hemoglobin 15 grams per 100 cc., the leukocyte count was 8,300 per cu. mm. and the differential was normal. The icteric index was 60. A stool was grayish-brown and negative for urobilinogen. The blood Kahn was 4+ and the Wasserman was negative. The quantitative Kahn was 20 Kahn units. Nonprotein nitrogen was 32 mg. per 100 cc. The total protein was 5.6 grams per 100 cc. with albumin 2.58 and globulin 3.02 grams per 100 cc. The prothrombin time was 52 percent of normal. Cephalin flocculation was 4+. The Van den Bergh was 4+ direct and 15 mg. per 100 cc. indirect. The urine showed occasional leucine crystals but no tyrosine crystals. A chest x-ray showed old fractures of the 6,7,8, and 9th ribs on the left in the posterior axillary line.

HOSPITAL COURSES: The patient was treated with a high carbohydrate, high vitamin, high caloric diet and was also given penicillin. The jaundice increased and on the 6th hospital day he became disorientated and confused. On the 9th hospital day vomiting of dark brown fluid began and basal rales appeared in the lungs. The temperature rose to 103 degrees F., pulse to 140 and he died on the afternoon of the 9th hospital day.

CLINICAL DISCUSSION

—DR. ARTHUR E. MAHLE:* The problem in this case is to determine what type of jaundice the patient had. He did not have a hemolytic type of jaundice. Did he have an intrahepatic jaundice or an extrahepatic obstructive type of jaundice? It is the old question that you will be faced with time and time again. What are the salient points of differentiation? In the catarrhal or intrahepatic type of jaundice slow onset with premonitory symptoms preceding jaundice is common, although the absence of fever is against this. In addition the patient had syphilis and at one time was a heavy consumer of alcohol. He may have received arsenical treatment for syphilis. Also, I don't believe you can overlook the fact that he received one unit of plasma 3½ months ago. Thus, from the history there are four possible causes for intrahepatic jaundice: cirrhosis, arsenic, syphilis and plasma; in addition, the history reveals no cause for obstruction of the bile ducts.

Physical examination showed slight fever and normal blood pressure. He was well nourished but chonically ill, which does not seem consistent. He had Argyll-Robertson pupils. I can't tell just what the systolic murmur signified with normal heart size and normal blood pressure. The liver was enlarged four fingerbreadths below the costal margin and it was tender. The spleen was not enlarged and there was no edema or ascites, so I would rule out a fulminating type of cirrhosis. As far as the laboratory tests are concerned the positive Kahn confirms the history of syphilis. The urine showed an interesting finding of no urobilinogen, which reminds me of Conan Doyle's story of the dog that did not bark in the night. The stools were one day grayish-brown and the next day gray and both were negative for urobilinogen. When the stools were grayish-brown we should consider that bilirubin was present. The urine contains no urobilinogen in obstructive jaundice because there is no bile in the duodenum or digestive tract. There might also be absence of urobilinogen in early acute severe liver injury or acute yellow atrophy due to obstruction of intrahepatic bile ducts by edema. However, this is unlikely and is one of the stumbling blocks in this case. The icterus index was rather high and before he died his icterus greatly increased. Cephalin flocculation and A-G ratio both showed definitely that the man had intrahepatogenous jaundice. There were leucine crystals in the urine which would make one think of acute yellow atrophy. However, patients with very severe liver damage from other causes do show leucine crystals in the urine because of the failure of the function of the liver and liberation of large amounts of amino acids. The hospital stay was extremely short and became stormy during the last five days.

In this case we have evidence both of intrahepatic liver disease and obstructive jaundice. The continued absence of urobilinogen in the urine is the main point in favor of obstructive jaundice. What are the things that cause obstructive jaundice? This man had too short a course for diseases such as carcinoma involving ampulla of Vater, liver, or head of pancreas and I don't believe that he had that sort of condi-

*Attending physician, Wesley Memorial Hospital.

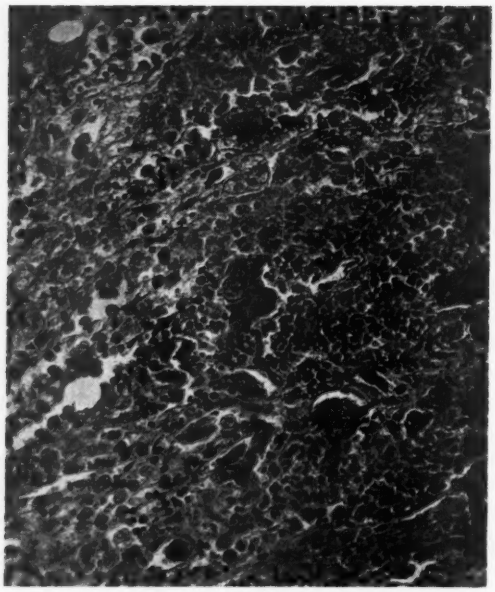

Figure 1

tion. The diagnosis of an intrahepatic cellular type of jaundice is more likely on the basis of the other laboratory data and clinical history. I think I shall mention serum homologous hepatitis, infectious hepatitis and acute yellow atrophy. Portal cirrhosis with hepatic failure or with acute hepatitis could probably explain the picture. Of these I think homologous serum jaundice is the most likely possibility.

DR. DANFORD CHAMBERLAIN: Was the plasma irradiated?

DR. THOMAS C. LAIPPLY: Information received from the hospital in which the patient was given the plasma is that it was not irradiated.

Dr. EARL ZAUS: Was an alkaline phosphotase done?

DR. LAIPPLY: It was not done.

DR. ZAUS: Did the intern run the urobilinogen on fresh urine or did it sit around the laboratory all day?

DR. LAIPPLY: I assume that the test was reasonably accurate as long as it was on the record. I think there is a little discrepancy in the stool examinations. One day it was described by the technicians as brownish-gray and the next the interns reported it as being gray.

DR. RENO ROSI: I think this is a rather typical case of homologous serum jaundice. The obstructive signs don't worry me too much because early in the course obstructive signs may be present. I would also consider hepatoma with biliary obstruction.

DR. MAURICE GORE: I am inclined to believe that this man did have cirrhosis on the basis of the history. I agree that he could have had homologous serum jaundice, which may have an acute onset with fever, chills and anorexia. Seventy-five days incubation is well within the range for homologous serum jaundice. Homologous serum jaundice superimposed on cirrhosis of liver would account for the rapid course.

DR. LAIPPLY: You don't think that a patient with homologous serum jaundice alone would die so soon?

DR. GORE: I don't believe so. They may run a very fulminating course, but I have never seen one die in 9 days.

DR. PAUL RHOADS: Dr. Mahle, can you explain bilirubin being present in urine without urobilinogen in stool?

DR. MAHLE: If there was bile in the stool one would think that there would be enough bacterial reaction in the intestinal tract to convert bile into urobilinogen. I doubt if there was bile in the stool without urobilinogen in the urine. It is, however, not inconsistent with complete intra or extra-hepatic obstruction, to have bilirubin in the urine without either bile or urobilinogen in the stool.

A PHYSICIAN: One should consider syphilitic hepatitis. He had syphilis for five years, on admission his pupils did not react to light, and he had a positive Kahn. Or it might be arsenical hepatitis.

DR. LAIPPLY: What do you think caused it, syphilis, arsenic or virus?

A PHYSICIAN: From the history it might be a combination.

CLINICAL DIAGNOSIS

Homologous serum jaundice.
Acute atrophy of liver.

DR. MAHLE'S DIAGNOSIS

Homologous serum jaundice.

ANATOMICAL DIAGNOSIS

Viral hepatitis, probably homologous serum type.
Bronchopneumonia, left.
Syphilitic aortitis and aortic valvulitis.

PATHOLOGICAL DISCUSSION

DR. LAIPPLY: Autopsy disclosed the primary cause of death to be viral hepatitis. Other anatomic diagnoses were: marked generalized

icterus, ascites (200 cc), bilateral acute bronchitis, bronchopneumonia of left lung, syphilitic aortitis and syphilitic aortic valvulitis with aortic insufficiency, chronic leptomeningitis and chronic encephalitis. The immediate cause of death is considered to be bronchopneumonia. The chronic leptomeningitis and encephalitis are consistent with a diagnosis of neuro-syphilis.

The liver which weighed 1100 grams had the usual gross appearance of viral hepatitis, i.e. slight reduction in size and marked enlargement of the central (red) zones. The microscopic changes were also striking and characteristic of viral infection of the liver, namely: diffuse marked degeneration and necrosis of hepatic parenchymal cells, moderate cellular infiltration particularly with large mononuclear cells, and canaliculi filled with bile. As is commonly the case in fatal cases of viral hepatitis there were very few recognizable normal parenchymal cells in any part of the liver (fig. 1).

The aorta was dilated and had the typical intimal sclerosis and stellate scarring of syphilitic meso-aortitis. Microscopically there was typical scarring, vascularization, and interruption of medial elastica as well as marked perivascular lymphocytic infiltration in the adventitia. The thickening of cusps and separation of commissures were typical of syphilitic involvement of the aortic valve. The commissural separation was anatomic evidence of some degree of aortic insufficiency.

Cases of viral hepatitis can be separated into two groups: infectious hepatitis and homologous serum jaundice. The two conditions present identical pathological changes but may be differentiated clinically from one another by the following:

Viral Hepatitis (Homologous serum)	*Viral Hepatitis (Infectious)*
1. Widely distributed.	World wide distribution.
2. No seasonal incidence.	Fall and early winter.
3. No age predilection; uncommon in children.	Children and young adults.
4. Not transmitted orally.	Transmitted orally.
5. Virus not in feces.	Virus in feces.
6. Incubation period 40-160 days.	Incubation period 20-40 days.
7. Specific immunity develops.	Specific immunity develops.
8. No specific serologic test.	No specific serologic test.
9. Not transmitted to laboratory animals.	Not transmitted to laboratory animals.
10. Less contagious than I. H.	Relapse common (1-18%).
11. As little as 0.01 cc. serum infective.	Death rate (0.4/100).

Ideally the prevention of viral hepatitis should be carried out, in the first place, by isolation of the patient the same as for typhoid fever; by proper disposal of the feces, prevention of infestation with flies, and proper sterilization of needles and syringes. Immunization with gamma globulin may be of some use in patients who have received plasma which might possibly contain the hepatitis virus. Convalescents should not be used as food handlers and patients having recovered from the disease should not be blood donors for at least two years. Irradiation of plasma may kill the virus although some cases are reported following the use of irradiated plasma. At present there is some evidence to show that allowing plasma to stand at room temperature for a certain period may kill the virus. Pooled plasma should probably not be used. The treatment is largely supportive although recently a few cases have been reported to recover quite promptly following the administration of adrenocorticotropic hormone.

It should be understood that the current case is considered to be the homologous serum type of viral hepatitis because the clinical history is consistent. The interval of approximately 100 days between administration of plasma and hypodermic injections and the development of jaundice is consistent with the incubation period of the homologous serum type. There is, however, as is true in most instances of hepatitis considered to result from introduction of blood or blood products, no proof that the patient did not spontaneously contract infectious hepatitis 20 to 40 days prior to the development of symptoms.

The absence of urobilinogen in the stools and urine does not preclude the existence of hyperbilirubinuria resulting from failure of liver to excrete bile. Such hepatic failure is in keeping with the marked diffuse damage of hepatic tissue demonstrated in this case.

NEWS OF THE STATE

BUREAU

Joint Professional Meeting.—Physicians, dentists, lawyers, veterinarians, and their wives, held a joint meeting at the Clark Hotel in Princeton, April 3. Dr. George E. Wakerlin, professor and head of the Department of Physiology, University of Illinois College of Medicine, spoke on "Recent Advances in Our Knowledge of Heart Disease."

CHAMPAIGN

New Health Director.—Dr. William M. Hanrahan has been appointed director for the Champaign-Urbana Public Health District, a position that has been vacant since April 4, 1950. Dr. Hanrahan comes from Florida, where he has been serving as director of the Brevard-Osceola Bi-County Health Department, with headquarters in Cocoa.

A native of Illinois, Dr. Hanrahan received his medical degree from the Stritch School of Medicine of Loyola University. He did graduate work in obstetrics in Vienna, Glasgow and Dublin, and completed a short course of intensive training in public health administration at the University of Florida.

In addition to five years of private medical practice in Chicago, he has served as resident physician in Chicago Lying-in Hospital and as assistant in obstetrics at University Woman's Clinic, Breslaw, Germany, and New York Lying-in and Johns Hopkins Hospitals. He has also been associate clinic professor of obstetrics at Loyola University and has served on the obstetrical staff of Cook County Hospital.

COOK

Lectures on the Heart.—The Chicago Medical School sponsored the following lectures on the heart and circulation:- Louis N. Katz, April 9, "Recent Trends in Electrocardiography"; Aldo A. Luisada, April 16, "Auscultation and Phonocardiography"; Jeremiah Stamler, April 30, "Atherosclerosis and Arteriosclerosis"; Harold J. Wiggers, May 7, "Physiological Reactions Following Coronary Occlusion"; Donald H. Atlas, May 14, "The Controversy of Congestive Failure", and Willis J. Potts, May 21, "Surgery of Congenital Heart Disease."

Medical Lectures.—Stafford L. Osborne, professor emeritus of physical medicine, opened a special series of lectures, April 9, scheduled by the Medical School of Northwestern University. The title of his presentation was "Electricity As Used in Medicine". Other speakers in the series are Fred Norwood, April 16, "Early American Medicine"; Ralph A. Reis, April 23, "Midwifery in America"; Loyal Davis, April 30, "The Stormy Petrel of Surgery"; Vincent J. O'Connor, May 7, "The Development of Urinary Antiseptics"; Abraham Levinson, May 14, "The History of Pediatrics"; William J. Ford, May 21, "John Hunter," the great English anatomist of the late 18th century; William B. Wartman, May 28, "The History of Tumors", and Herbert Rattner, June 4, "Ordinary Baldness."

Ludvig Hektoen Lecture.—The twenty-eigth Ludvig Hektoen Lecture of the Frank Billings Foundation will be delivered at the Palmer House on Friday evening, May 23, by Dr. Harold E. Himwich, Director of Research Division, Galesburg State Research Hospital: "The Functional Organization of the Brain, an Experimental Analysis."

New Chicago Health Commissioner.—Dr. Frank V. Meriwether, who retired last December after 32 years with the U. S. Public Health Service, has become health commissioner of Chicago and president

of the board. Dr. Herman N. Bundesen is on a leave of absence.

Full-time Positions at Cook County Hospital.—Dr. Karl A. Meyer announces that the Board of Cook County Commissioners appropriated funds for full-time positions in Pathology, Biochemistry, and Anatomy at Cook County Hospital. These newly created positions will permit a more extensive teaching program for the house staff of the hospital in the various fields of basic science.

Distribution of Julius Hess Fund.—As a result of the testimonal dinner recently given in honor of Dr. Julius H. Hess, there was a surplus amounting to $116.74. This money was distributed, according to the wishes of Dr. Hess, among the following organizations: Infant Aid Society, Cook County Chapter of the National Infantile Paralysis Foundation, and the Dr. Julian D. Levinson Research Foundation.

Dr. Arthur F. Abt to Join Duke University.—Dr. Arthur F. Abt has accepted an appointment as professor of pediatrics at the Duke University School of Medicine and the position of Director, Radio Isotope Unit, for the Veterans Administration Hospital at Durham, North Carolina, now nearing completion. Dr. Abt has been engaged in the practice of pediatrics in association with his father, Dr. Isaac A. Abt since 1926.

In June 1945 Dr. Abt was awarded the Alumni Citation as Useful Citizen and Citation for Public Service by the University of Chicago Alumni Association.

Dr. Abt has been Pediatric Section Representative to the Scientific Exhibits of the A. M. A. 1939-1942. He was a member of the Council of the Chicago Medical Society; Past President of the Chicago Pediatric Society, and a member of the Executive Committee.

Dr. Abt served 49 months on Active Duty with the U. S. Navy Medical Corps. He was an investigator for the Office of Scientific Research and Development and Navy Liason Officer to the National Research Committee.

New Department of Social Work.—Miss Mary L. Hemmy of Washington University, St. Louis, Missouri, has been appointed head of the newly-established department of social work at the University of Illinois College of Medicine, effective July 1. She will have the rank of associate professor. Miss Hemmy presenty serves as Director of the Social Service Department at Washington University Clinics and Allied Hospitals, a position which she has held since 1947. The newly created department of social work in the College of Medicine will be concerned with the teaching of students in the College of Medicine and students in the School of Social Work, Urbana, who are specializing in the field of medical social service. It also is likely that the department will provide instruction for a limited number of students enrolled in the School of Social Work at the University of Chicago. This latter teaching function presently is being conducted in the Research and Educational Hospitals at the University of Illinois.

Davis Lecture.—The ninth annual D. J. Davis Lecture on Medical History was given by Dr. Erwin H. Ackerknecht, professor of history of medicine at the University of Wisconsin, Wednesday, April 9, at the University of Illinois College of Medicine. The subject of his lecture was "Diseases in the Middle West." The lecturship was established by associates and friends of Dr. Davis upon his retirement as dean of the College of Medicine in 1943. Well known for his work in bacteriology and public health, Dr. Davis also is an enthusiastic student of medical history and during his 30 years service at the University of Illinois, he did much to promote interest in this field. As a fitting tribute to him, this lecture was permanently endowed in his honor.

Society News.—At a meeting of the Chicago Rheumatism Society, March 26, the speakers were William S. Hoffman, Ph.D., Luke Pascale, M.D., Alvin Dubin, M.S., on "Experiences in the Use of Benemid in the Treatment of Gout" and Drs. William B. Looney, R. M. Potter and Howard Hatcher on "The Late Effects of Orally and Parenterally Administered Radium Salts."

Personal.—Dr. Hugo R. Rony, associate professor of clinical medicine, the Chicago Medical School, has been appointed attending physician in metabolism and endocrinology at Mount Sinai Hospital.

News At Illinois.—Dr. Bruno Minz, maitre de recherches at the Laboratory of General Physiology at the Sorbonne, Paris, is spending six months as visiting research professor of pharmacology at the University of Illinois College of Medicine in Chicago. Dr. Minz is giving a series of seminars to graduate students. He is engaged in neuropharmacological studies on the transmission of impulses in the central nervous system and on the influence of hormones on convulsive thresholds. Dr. Theophile A. Alajouanine of Paris, France, a distinguished clinical neurologist, has been appointed as visiting professor of neurology at the University for three months, beginning April 1. Professor Alajouanine, 61, who previously has served as visiting professor in many foreign countries, will deliver lectures and will participate in the clinical program of the Department of Neurology and Neurological Surgery. Dr. Hiram T. Langston, formerly in private practice in Detroit, has been named head of the department of surgery at the new Chicago State Tuberculosis Sanitarium and has been appointed clinical associate of surgery at the college of medicine. He will also serve as a consultant in thoracic surgery at the Veterans Administration Hospital at Hines. Mr. R. W. Artis, supervisor, District 9, U. S. Bureau of Narcotics, gave a lecture at the college of medicine, April 16, on "Federal Narcotic Laws Affecting the Health Professions."

KANKAKEE

Society News.—"Modern Management of Anemic States" was the subject of a talk by Dr. Louis R.

Limarzi, associate professor of medicine, University of Illinois College of Medicine, April 14, before the Kankakee County Medical Society.

KNOX

Society News.—Speakers before recent meetings of the Knox County Medical Society in Galesburg were Dr. Clifton Hall, chief of the Bureau of Tuberculosis Control, Illinois Department of Public Health, on "Diagnosis of Pulmonary Tuberculosis by Mass Survey" and Drs. F. Hambrecht and Edwin A. Crowell, both of Galesburg, on "Surgical Treatment of Low Back Pain." The latter program was illustrated with motion pictures of a spinal fusion operation.

LA SALLE

Society News.—Dr. Harold R. Oberhill, clinical assistant in neurosurgery, University of Illinois College of Medicine, addressed the LaSalle County Medical Society, March 20, on "Epilepsy: Diagnosis and Recent Trends in Therapy." Dr. James H. Hutton, Chicago, addressed the society's April 10 meeting on "Medical History of Illinois.

MACON

Society News.—"Urology in Children" was the subject of a talk by Dr. Dayton R. Seabaugh, Cape Girardeau, Missouri, before the Macon County Medical Society in Decature on March 25.

MADISON

Society News.—Dr. Douglas W. Eastwood, assistant professor of anesthesiology, Washington University School of Medicine, discussed "Physiologic Changes of Respiration During Anesthesia", April 3, before the Madison County Medical Society.

OGLE

Presentation of Fifty Year Insignia.—Dr. Walter E. Kittler, Rochelle, was honored at a dinner meeting given by the Ogle County Medical Society, March 18, when the Fifty Year Club Insignia of the Illinois State Medical Society was presented to him by Dr. Harold M. Camp, Secretary of the State Medical Society. Dr. Kittler graduated at the University of Illinois College of Medicine in 1902. Dr. Lee E. Schneider, Oregon, was to be similarly honored but because of inclement weather could not attend the dinner. Dr. Russell Zack, President of the Ogle County Medical Society, and Dr. Kittler drove to Oregon and personally made the presentation to Dr. Schneider the following day.

ROCK ISLAND

Society News.—Dr. William Spear, Oakdale, Iowa, addressed the Rock Island County Medical Society at a meeting held April 8. The subject of his talk was "Carcinoma of the Lung."

ST. CLAIR

Personal.—Lt. Col. Tyron E. Huber of 16 S. 22nd Street, Belleville, Illinois, with U. S. Forces in Japan, was one of the principal speakers at a recent forum at the University of Hokkaido Medical School in Japan. Some 200 medical students and doctors at the university heard the address by Colonel Huber who is chief of medical service, at the U. S. Army Hospital at Camp Yokohama. On the previous day, the doctors had participated in the Hokkaido Medical Conference with eminent medical men from all parts of Japan. The conference was held under the auspices of the Army's Japan Logistical Command.

WINNEBAGO

Society News.—Dr. Eugene R. Kellersberger, general secretary of the American Leprosy Missions and medical missionary in the Belgian Congo for 24 years, addressed the Winnebago County Medical Society, March 28, and Dr. Willis J. Potts, Chicago, addressed the April 8 meeting of the society on "Management of Surgical Emergencies of the Newborn."

DEATHS

ROY CALHOUN COFFEY, Bethany, who graduated at Northwestern University Medical School in 1911, died December 29, aged 71, of arteriosclerotic heart disease. He was a past president of the Moultrie County Medical Society.

TROVALO C. COGGESHALL, Henry, who graduated at the University of Illinois College of Medicine in 1904, died March 23, aged 71. He had practiced medicine in Marshall County for 43 years.

CLEMENT ANTHONY CUMMINGS, retired, Wilmette, who graduated at John A. Creighton Medical College, Omaha, in 1916, died in Francis Anne Lutcher Hospital, Orange, Texas, February 26, aged 59, of injuries sustained in an automobile accident.

EDWARD D. HOWLAND, retired, Chicago, who graduated at Rush Medical College in 1886, died March 27, aged 94. He had practiced medicine for more than 50 years.

NICHOLAS C. IKNAYAN, Charleston, who graduated at Northwestern University Medical School in 1896, died November 27, aged 84. He was a past president of the Coles-Cumberland Counties Medical Society.

OLAF ALFRED OLSON, Rockford, who graduated at Hering Medical College, Chicago, in 1908, died February 27, aged 81.

LEOPOLD H. PIJAN, Chicago, who graduated at Illinois Medical College, Chicago, in 1904, died March 29, aged 73.

JOSEPH W. RUSSELL, Chicago, who graduated at College of Medicine and Surgery, Chicago, in 1904, died March 19, aged 76. He had practiced medicine in Chicago for 46 years.

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PHYSICAL MEDICINE ABSTRACTS

POST THORACOPLASTY SCOLIOSIS

Ralph E. Dwork, M.D., Columbus, Ohio, Harold Dinken, M.D., and Allan Hurst, M.D., Denver, Colorado. In ARCHIVES OF PHYSICAL MEDICINE, 32:11:722, November 1951.

Thoracoplasty is a mutilating surgical procedure leaving in its wake a large ugly scar as well as a sunken chest. An important complication in the scoliosis which accompanies this operation. Most thoracic surgeons have accepted these constant accompaniments to thoracoplasty as inevitable and as a small price to pay to achieve a cure of tuberculosis, although the deformed patient may feel otherwise.

Physical medicine has been employed rather widely, in recent years, in an attempt to prevent, minimize or correct the deformity resulting from thoracoplasty. Many reports indicate the effectiveness of physical agents and technics in attaining these objectives. The early institution of treatment is stressed.

Most programs consist of three phases: first, preoperative orientation of the patient as to the nature of the surgical procedure and its possible sequelae and instruction in proper bed positioning and early mobilizing exercises to be performed post-operatively; second, treatment post-operatively, between stages, in an attempt to improve bed posture and later sitting posture, mobilize the shoulder girdle and begin early abdominal exercise routines and diaphragmatic breathing; later, standing and early ambulation with good alignment is stressed. Postural wedge-compression of the thorax, by having the patient lie on wedge pillows or sandbags on the operative side, is widely used. Following completion of the final stage of resection, a graduated program of treatment is instituted, aimed at taking the patient from the bed through the various phases of convalescence to total rehabilitation. The recent use of "resistive exercise" is most interesting, but further observation is needed before final evaluation of its place in treatment is made.

It is fairly obvious, from the literature, that such an approach is highly desirable and effective in preventing noticeable postural abnormalities, "frozen," painful shoulders, deconditioning and other sequelae. It has not, however, been adequately demonstrated by long range, objective studies that conservative treatment by physical means alone is effective in preventing the development of structural scoliosis, which occurs so frequently following extensive thoracoplasty. It is hoped that further studies will shed additional light on this important subject.

RECENT DEVELOPMENTS IN POOL THERAPY AT DROITWICH SPA

H. L. Milles, M.A., M.R.C.P. In THE BRITISH JOURNAL OF PHYSICAL MEDICINE, 14:11: 249, November 1951.

The main purpose of this article is to evaluate

(*Continued on page* 48)

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Physical Medicine (Continued)

one of the most useful qualities of brine, namely, its buoyance. The methods of using this unique property to the best advantage are discussed, though its possibilities are still being explored.

It is evident that many advantages arise from the buoyancy of the brine; for instance, the severely crippled or paralyzed patient is fully supported and can be moved into position with ease, thus saving much time and work for both the physical therapist and patient. Furthermore, the complete support of the body, resulting in relaxation, facilitates instruction in both assistance and resistance exercises, and widens the scope of muscle reeducation. All these various possibilities are still being developed, and recently a bay has been built in the Brine Swimming Pool where the physical therapist can handle the patient without entering the brine, and has full control of their movements while instructing them in suitable exercises. When his progress is satisfactory, the patient can continue in the general swimming pool. Bedridden patients can make their preliminary attempts at walking by the support of the brine, if necessary between parallel bars, their progress being so arranged and graded that they can very gradually support more of the body-weight as they move into shallower brine.

For shoulder-joint movements the patient is fixed to a seat which can be altered in height. Wall-bars add further to converting the pool into a water gymnasium.

Further progress of the patient is supervised in the "dry" gymnasium, and particular emphasis is laid on simple home exercises. Furthermore, a list of home tips for the handicapped is available, and it is hoped that at an early date a series of demonstrations of various "aids" will be arranged.

TREFRIW SPA

R. T. Browne. In THE BRITISH JOURNAL OF PHYSICAL MEDICINE, 14:11:243, November 1951.

The special feature of this spa, a feature unique among the spas of Wales, is the provision of a fully effective home treatment by which the waters may be taken at home in the same way and with exactly the same beneficial effects as at the spa itself. The waters are dispensed for

(*Continued on page* 50)

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Physical Medicine (Continued)

internal consumption in the usual way, though, except where specially ordered by the physician, balneotherapy treatment is not at present given, since the internal treatment alone has proved to be fully effective. The naturally high degree of concentration of the water and the consequent small dose enable the waters to be bottled in small hermetically sealed phials each containing the daily dose, so that patients may take the treatment at home without interference with their daily occupations. The home treatment is regarded by physicians and patients alike as an immense advantage and the most important work of the spa, benefitting, as it undoubtedly does, all sections of society. A seven weeks home treatment, prolonged where necessary, has been the means of effecting alleviation and cure in cases of anemia, rheumatism, neuritis, fibrositis, sciatica, and has been taken with the greatest advantage in conditions of osteoarthritis and rheumatoid arthritis that have not responded to any other form of treatment.

SPA TREATMENT—ITS RELATION TO MEDICAL REHABILITATION

R. A. Lockwood, M.C.S.P., Buxton. In THE BRITISH JOURNAL OF PHYSICAL MEDICINE, 14:11:255, November 1951.

Although there is nothing new or mysterious about the beneficial effects of treatment at a spa, their use should not be forgotten or ignored by those giving physical treatments. The major British Spas are making a serious and useful contribution to general health and to those in need of rehabilitation in particular.

The aims of spa treatment generally may be summarized as follows:

(1) Placing the patient in the most favorable environment for treatment and thus counteracting adverse psychological influence.

(2) The removal of waste products due to faulty metabolism or infective processes through the bowels, kidneys or skin.

(3) The acceleration of the interchange between blood and tissue fluids by stimulating the circulation of blood and lymph.

(4) Improving metabolism so as to secure increased resistance to infection.

(5) Breaking down fibrous adhesions — dis-

(*Continued on page* 54)

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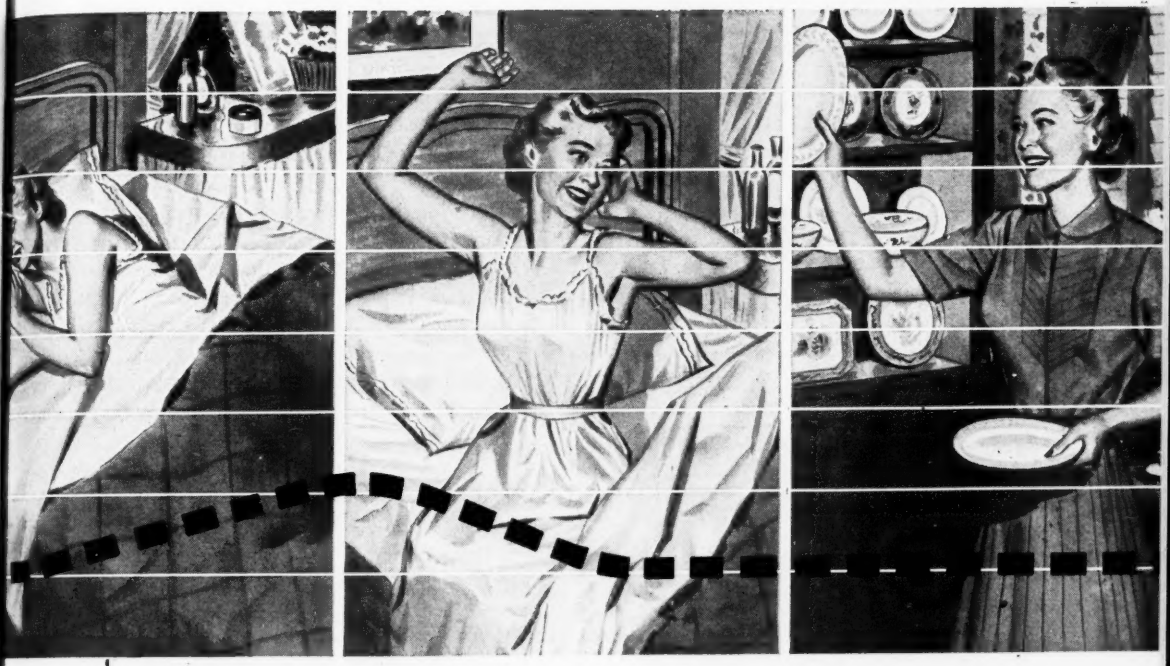

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When sedation is desired. *Nitranitol with Phenobarbital.* (¼ gr. phenobarbital combined with ½ gr. mannitol hexanitrate.)

For extra protection against hazards of capillary fragility. *Nitranitol with Phenobarbital and Rutin.* (Combines 20 mg. rutin with above formula.)

When the threat of cardiac failure exists. *Nitranitol with Phenobarbital and Theophylline.* (½ gr. mannitol hexanitrate combined with ¼ gr. phenobarbital and 1½ grs. theophylline.)

NEW . . . For refractory cases of hypertension. *Nitranitol P.V.* (½ gr. mannitol hexanitrate combined with ¼ gr. phenobarbital and 1 mg. Veratrum viride alkaloidal fraction – biologically standardized for hypotensive activity.)

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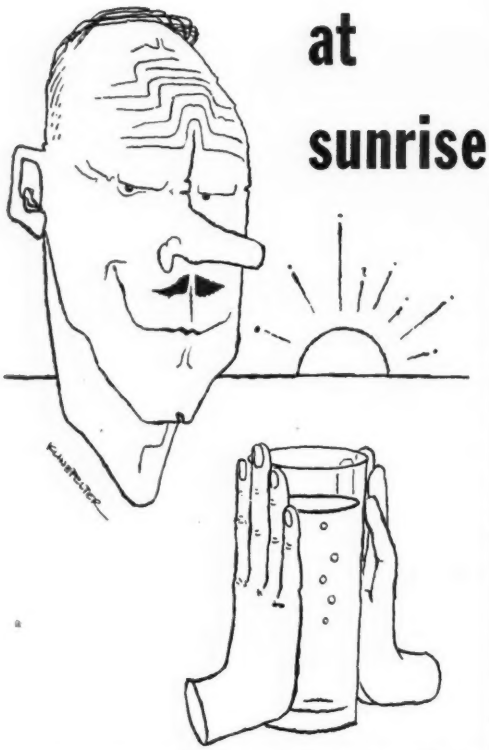

"I clean the poisons out every day," he says—but he doesn't realize he is whipping a tired, irritated bowel.

Put this character on a treatment of Turicum. Explain to him it is not a one-shot cathartic but a restorative treatment that should be kept up for several days to help the bowel back to normal reflex peristalsis.

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Physical Medicine (Continued)

persing thickenings in the muscles, tendons and joints.

(6) Increasing, where possible, range of joint movement and reeducation of muscle power and control.

These aims will be recognized as being eminently suitable for the treatment of the rheumatic group of diseases, but are equally applicable to other conditions such as poliomyelitis, postoperative and orthopedic conditions, and the after-effects of joint, bone and muscle trauma.

A wide range of known physical treatments is used at all spas, and after diagnosis a treatment plan should be drawn up having regard to the physical, radiological and pathological findings, and the object in view. It is usual for a patient to be prescribed hydrotherapy and physical therapy treatments on alternate days, together with interspaced recreational, occupational and diversional therapy.

It is the type of physical treatment classed as hydrotherapy which is not too well known to physicians and physical therapists, and which, in a large proportion of patients, is responsible for improvement. Quite often patients have received extensive massage, heat and electrotherapy, either as in-patients or out-patients at their local hospital before they are sent for treatment of the spa type.

Some of the principal baths or forms of balneotherapy are: immersion, aerated, douche massage, undercurrent douche, vapour, peat packs and baths, deep pool and therapeutic pool. Packing in towels, sheets and blankets forms an important part of the treatment.

It is possible in a short article to deal with only a few of the many types of hydrotherapy used. The spa regimen, or as it must now be called — spa rehabilitation — utilizes all the forces that nature and man can provide.

It is the combination of these factors which enables the physical therapist to achieve, objectively and subjectively so much more than physical therapy alone.

TREATMENT OF ACUTE SUBACROMIAL BURSITIS

Harry Merliss, M.D., Hackensack, N. J. In THE JOURNAL OF THE MEDICAL SOCIETY OF NEW JERSEY, 48:11:515, November 1951.

The patient with acute subacromial bursitis

(*Continued on page* 56)

control companion to ACTH and CORTISONE

"In clinical practice it is clearly wise to test the urine of both diabetic and non-diabetic patients for sugar at intervals during administration of cortisone or ACTH and to carry out appropriate investigations and treatment if glycosuria occurs. Particular caution is necessary for diabetic patients."

Sprague, R. G.: Cortisone and ACTH, Am. J. Med. *10* 567, 1951.

To avoid such clinical surprises and simplify clinical control, ACTH and cortisone therapy is profitably *preceded, accompanied* and *followed* by routine testing for urine-sugar. *Clinitest* Reagent Tablets provide a rapid, reliable and convenient method—easily used by both physician and patient.

CLINITEST *for detection of urine-sugar*

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C-2

Non-Dietary Factors in Feeding Problems

Emotional disturbances in infants and children may often be reflected in feeding problems with symptoms referable to the gastro-intestinal tract. Some of these difficulties are resolved by growth, others require therapy above and beyond dietary changes.

The literature stresses that certain G-I disorders in children can be produced by *autonomic imbalance,* and particularly excessive cholinergic (parasympathetic) impulses.

In these, the basic therapeutic need is for anti-cholinergic measures. The use of atropine (50-50 mixture of dextro- and levo-hyoscyamine) for this purpose is well-known. While the levo-form produces the necessary anti-cholinergic action, the dextro- component is the main source of atropine's central, toxic effects.

Pure levo-alkaloid of belladonna (primarily l-hyoscyamine) is available as Bellafoline. This preparation is:

a) weight for weight twice as active as atropine

b) dose for dose half as toxic.

Bellafoline has been combined with therapeutically adequate doses of phenobarbital for antispasmodic sedative effect — Belladenal:

a) Elixir: each 4 cc. (approx. one teaspoonful) contains:
0.0625 mg. (1/1000 gr.) Bellafoline
12.5 mg. (3/16 gr.) phenobarbital
(equivalent to ¼ Belladenal tablet)

b) Tablets: each containing: 0.25 mg. (1/260 gr.) Bellafoline
50 mg. (¾ gr.) phenobarbital

The table below is a guide to:

BEST DOSAGE IN CHILDREN*

AGE	ATROPINE DOSAGE SCHEDULE	DOSAGE OF BELLADENAL ELIXIR
1 to 12 months	1/1300 gr. to 1/650 gr.	½ teaspoonful
1 to 3 years	1/400 gr.	1 teaspoonful
3 to 6 years	1/150 gr.	2½ teaspoonsful
6 to 12 years	1/150 gr. to 1/75 gr.	1 tablespoonful

* This dosage schedule is based on findings of K. R. Unna et al: Pediatrics *6:* 197, 1950.

For full dosage table and complete information and references on this subject, just request "Infant Feeding Problems" literature.

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68 CHARLTON STREET, NEW YORK 14, N. Y.

Physical Medicine (Continued)

is usually in such severe pain that treatment must be considered as an emergency procedure. Most of these patients are treated with local Novocain injections with or without irrigation or with x-ray therapy. Some orthopedists advocate immediate surgical exposure and evacuation of the subacromial bursa.

No matter what procedure is favored, almost all therapists recognize the value of an immobilizing dressing, the local use of ice and sedation as adjunctive therapy.

However, a review of the pathophysiology of acute subacromial bursitis brings out facts that make one wonder whether the primary treatment is not adjunctive and the adjunctive therapy primary. The pathophysiology also points out the self-limited character of acute subacromial bursitis.

The rationale of therapy is to relieve intra-bursal tension and reduce the inflammatory response by preventing contusion of the intra-bursal tissues.

A critique of existing methods of therapy is given in this discussion together with a case of acute subacromial bursitis that was easily handled with traction, immobilization, ice and Demerol, without more active treatment.

A series of seven cases, all treated in the same manner, is presented which shows uniformly good results.

Pendulum exercises usually were not started until the seventh day, and motion usually returned rapidly. In one case complete internal rotation remained painful.

POLIOMYELITIS IN A PAIR OF IDENTICAL TWINS: REPORT OF CASES

Robert R. Haumeder, M.D., Berkeley, Calif. In ARCHIVES OF PEDIATRICS, 68:8:357, August 1951.

Reports of the appearance of paralytic poliomyelitis in two or more members of the same family have appeared occasionally, but its appearance in identical twins has been reported only rarely.

This is a report of the case histories of a pair of five-year-old identical twin boys who developed similar forms of paralytic poliomyelitis.

The first boy was given no plasma until the fourth hospital day, but he declined rapidly and died on the fourth day, in apparent respiratory failure. The patient had been treated with hot

(*Continued on page* 58)

DIARRHEA OR DYSENTERY

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In diarrheas, Arobon assures rapid control of the abdominal distress, the frequent stools, and the resulting generalized discomfort.

Processed from specially prepared carob flour, Arobon contains a high proportion (22 per cent) of pectin, lignin, and hemicellulose. Its adsorptive and demulcent actions serve to remove offending bacteria and toxins, and the gelatinous mass it forms on taking up water soothes the inflamed bowel.

Arobon produces excellent results in the non-specific diarrheas of adults, children, and infants, often leading to formed stools in 12 to 15 hours. In the specific dysenteries, its action is valuable in conjunction with indicated chemotherapeutic agents.

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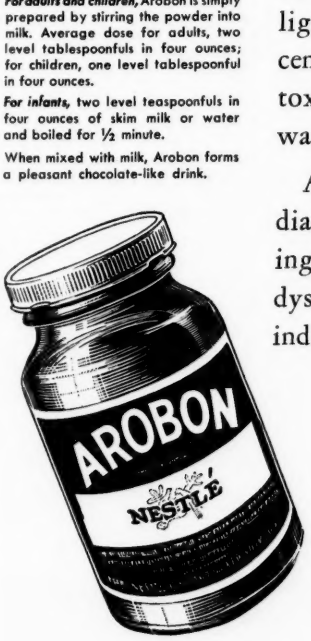
For adults and children, Arobon is simply prepared by stirring the powder into milk. Average dose for adults, two level tablespoonfuls in four ounces; for children, one level tablespoonful in four ounces.

For infants, two level teaspoonfuls in four ounces of skim milk or water and boiled for ½ minute.

When mixed with milk, Arobon forms a pleasant chocolate-like drink.



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packs during his entire hospitalization and received Priscoline, 50 mgm. every four hours, the last two days of his illness.

The second boy, identical twin to the one described above, was given plasma immediately and was started on Priscoline and oxygen. On the fourth day this patient was feeling well, and his temperature was normal. On the sixth day, he showed slight improvement of function of the left arm, and spasm of the back and hamstrings was decreasing. He was discharged to a private physician on the eighth hospital day for further physical therapy. There was only slight weakness of the left arm, but the right arm was still completely paralyzed. Three weeks after discharge the patient had recovered full use of the left arm, but the right remained paralyzed.

The possibility of a hereditary tendency to develop poliomyelitis and paralytic poliomyelitis has been mentioned before. If such a tendency exists it would be even more likely to appear in identical twins, with a similar onset one might well expect a similar course in such cases. These cases were so similar in onset that everyone feared the probability of a similar outcome in the second twin.

At the time of admission of the first patient, plasma was not being given routinely in the treatment of poliomyelitis patients, because it was being reserved for those deemed more seriously ill. This was the reason for not giving it earlier to the first patient. Because the second patient seemed so much worse, it was started so early in him.

Exactly how much difference in therapy affected the outcome in the second case cannot be determined; had plasma been with-held until the fourth day, the second twin might have succumbed. There is a definite possibility that the plasma did have some beneficial effect although the presence of antibodies has been fairly well ruled out by some investigators.

A recent report on poliomyelitis mentions the use of plasma and, although the authors could not show any statistical proof of its efficacy, they state that on clinical impression it often seems to be of definite benefit.

Haumeder feels that plasma played a part in

(*Continued on page 60*)

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℞ Valoctin tablets 5 grains, each containing 1 gr. Octin mucate and 4 grs. Bromural.

DOSE: 1 or 2 tablets at onset of distress. Another tablet after 4 hours if necessary.

tension and migraine headaches - - spastic dysmenorrhea - - spasms of gastro-intestinal and genito-urinary tracts, with accompanying nervousness.

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It is apparent from the data shown below that Ovaltine in milk can serve well in markedly increasing the intake of virtually all known nutrients. Taken daily during periods of inadequate consumption of other foods, it offers an excellent means for preventing subclinical nutritional deficiencies which can undermine general health or retard recovery from illness.

The appealing flavor of Ovaltine makes it acceptable to children as well as adults, including the aged. Ovaltine in milk is easily digested, an important feature when digestive disturbances are a factor.

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(Each serving made of ½ oz. of Ovaltine and 8 fl. oz. of whole milk)

MINERALS		VITAMINS	
*CALCIUM	1.12 Gm.	*ASCORBIC ACID	37 mg.
CHLORINE	900 mg.	BIOTIN	0.03 mg.
COBALT	0.006 mg.	CHOLINE	200 mg.
*COPPER	0.7 mg.	FOLIC ACID	0.05 mg.
FLUORINE	3.0 mg.	*NIACIN	6.7 mg.
*IODINE	0.7 mg.	PANTOTHENIC ACID	3.0 mg.
*IRON	12 mg.	PYRIDOXINE	0.6 mg.
MAGNESIUM	120 mg.	*RIBOFLAVIN	2.0 mg.
MANGANESE	0.4 mg.	*THIAMINE	1.2 mg.
*PHOSPHORUS	940 mg.	*VITAMIN A	3200 I.U.
POTASSIUM	1300 mg.	VITAMIN B_{12}	0.005 mg.
SODIUM	560 mg.	*VITAMIN D	420 I.U.
ZINC	2.6 mg.		

*PROTEIN (biologically complete)	32 Gm.
*CARBOHYDRATE	65 Gm.
*FAT	30 Gm.

*Nutrients for which daily dietary allowances are recommended by the National Research Council.

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Oral Tablets

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Oral therapy with Aluminum Penicillin has proved to be highly effective in a variety of penicillin-susceptible infections.

Aluminum Penicillin rarely causes gastrointestinal disturbance or allergic reactions.

Unique advantages are that Aluminum Penicillin is not soluble in solutions of the acidity of gastric secretion but is readily absorbed from the intestinal tract. Sodium benzoate is added because it inhibits the destructive action of penicillinase.

These factors provide for maximum utilization of the drug, higher and more prolonged blood levels.

Supplied in vials of 12 tablets each containing Aluminum Penicillin 50,000 units, Sodium Benzoate 0.3 gram.

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Physical Medicine (Continued)

halting the progression of symptoms and further believes that it should be used in all cases, and used early.

ROENTGEN THERAPY IN BURSITIS OF THE SHOULDER: AN ANALYSIS OF FIFTY CASES USING BOTH DEEP AND SUPERFICIAL TECHNIQUES

C. M. Witt, M.D., St. Louis, and P. F. Titterington, M.D., St. Louis. In THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION, 48:11:870, November 1951.

This paper presents the results of fifty consecutive cases of subacromial bursitis. All of the patients represented here are those in whom adequate statistical data was available to evaluate the immediate response to roentgen therapy. Efforts were made to evaluate only the degree of relief of pain since this was the primary aim of treatment. All were patients referred to the authors, as radiologists, for treatment, and all were treated as outpatients. The patients then returned to the referring physician for follow-up care if any was needed.

Many forms of therapy have been used in the treatment of bursitis. These include procaine injection, physical therapy in many forms and even a variety of drugs including neostigmine. Some authors have stressed physical therapy during roentgen therapy, to include manipulation under anesthesia, or to follow the relief of the initial pain by roentgen therapy or by other means, with physical therapy.

Roentgen therapy has long been recognized as a valuable method in the treatment of bursitis. This therapy is more effective in acute bursitis than in chronic disease. Of the former, 96.2 per cent obtained good results; of the latter only 85.8 per cent. There were many more treatment failures in the chronic group.

There would appear to be little significant difference in the use of deep and superficial roentgen therapy, provided adequate penetration is used to reach the site of the disease.

More and more it is being recognized that the successful treatment of the tuberculosis patient is not alone in drugs, surgery or bed rest, nor does it stop when he is sent home with his disease arrested or cured. Rehabilitation is that part of the treatment which is aimed specifically at maintaining the cure. G.D.W. Cameron, M.D., Medical Papers of the Annual Meeting of the Canadian Tuberculosis Association, May, 1951.

For HYPERTENSION

SAFER THIOCYANATE Therapy with

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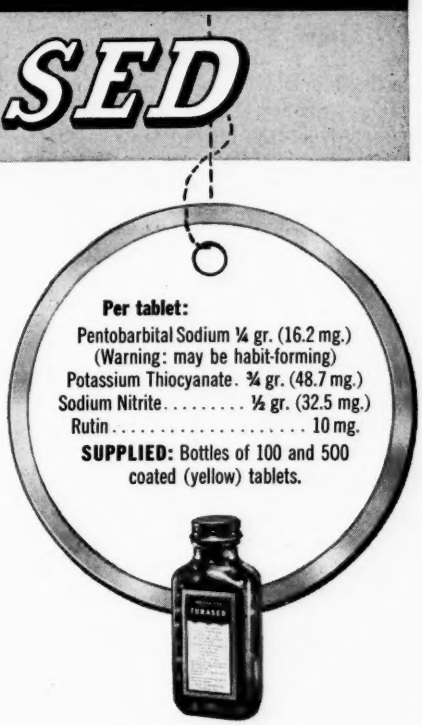
TURASED provides rapid and prolonged reduction of blood pressure with lower serum levels of thiocyanate—thus increasing the margin of safety. Comparative clinical study[1] with TURASED has revealed "the infrequency of toxic or sensitivity reactions." In no case did capillary fragility become abnormal while the patient was receiving this preparation.

The potentiated, safer thiocyanate therapy made possible with TURASED is based upon the synergism offered by this original combination of ingredients.

1. Parsonnet, A. E., et al.: J. M. Soc. New Jersey 47: 504, 1950.


Per tablet:
Pentobarbital Sodium ¼ gr. (16.2 mg.)
(Warning: may be habit-forming)
Potassium Thiocyanate. ¾ gr. (48.7 mg.)
Sodium Nitrite..... ½ gr. (32.5 mg.)
Rutin..... 10 mg.
SUPPLIED: Bottles of 100 and 500 coated (yellow) tablets.
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BOOK REVIEWS

NEUROSIS AND PSYCHOSIS. Bosselman, Beulah Chamberlain, M.D., Associate Professor of Psychiatry, University of Illinois College of Medicine, Chicago, Ill. 172 pages. $4.50. Charles C. Thomas, Springfield.

This book is intended to meet the special needs of medical students for a short didactic psychiatry text. It is based on a series of lectures given by the author to medical students at the University of Illinois.

The book is intended for orientation rather than a complete coverage of the field. The presentation followed is that usual in medical texts with sharp separation of individual syndromes. This of course represents oversimplification, but not more than is permissible in a didactic text of this type. Emphasis is placed on psychodynamics and a chapter on psychosomatic medicine is included.

The language is simple and unusually clear for a psychiatry text. It should be a useful text for medical students.

J. C. S.

THE PHOTOGRAPHY OF PATIENTS. Including Discussions of Basic Photographic and Optical Principles by H. Low Gibson, F.B.P.A., A.P.S.A. Medical Division, Eastman Kodak Company, Rochester, New York. Charles C. Thomas, Publisher, Springfield, Illinois, U.S.A. 1952. Price $5.50.

This little monograph of just over one hundred pages was primarily designed for readers with no more photographic experience than the average snapshooter. However, details have been developed to such an extent that more professional photographers will also find it of special value. It is an equally ideal guide book for the physician in his office, or for the institutional photographer.

The eight chapters range in subject matter from fundamentals to detailed descriptions of equipment, lens properties, lighting, filters, printing methods and paper selection. The diagrams and illustrations are good.

J. W. P.

THE SPECIALTIES IN GENERAL PRACTICE. Edited by Russell L. Cecil, M.D., Professor of Clinical Medicine, Emeritus, Cornell University Medical College, New York City. W. B. Saunders Company, Publisher. Philadelphia & London, 818 pages. 1951. Price $14.50.

The foundation of the practice of medicine is built upon the old family doctor. He is the first to be consulted by the patient. He institutes the proper therapeutic procedure or refers the patient to a specialist. When the patient returns to him, he carries on the follow-up treatment. This book is written to better enable him to carry out this work. Each chapter has been written by a recognized specialist especially for the use of the general practitioner.

The 14 chapters are all well illustrated with informative diagrams, charts and tables.

The chapters dealing with Ophthalmology and Diseases of the Anus, Rectum and Colon are especially detailed and practical.

This textbook is a valuable addition to the armamentarium of the busy general practitioner.

J. W. P.

CLINICAL LABORATORY DIAGNOSIS. By Samuel A. Levinson, M.D., Ph.D. Director of Laboratories, University of Illinois Research and Educational Hospitals, Chicago, Illinois; Professor of Pathology, University of Illinois College of Medicine, and Robert P. MacFate, Ch.E., M.S., Ph.D. Chief, Bureau of Laboratories, Department of Health of the City of Chicago; Assistant Professor of Pathology,

(Continued on page 66)

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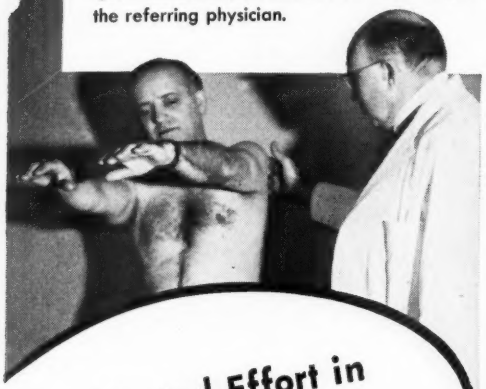

As soon as possible after arrival the patient is given the first of a series of complete physical examinations. The findings as well as subsequent laboratory studies are sent routinely to the referring physician.

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At all times the regimen of treatment is well coordinated under the direction of a staff of experienced full-time physicians who are members of the American Medical Association.

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[*This is the second of a series describing the successive steps in the treatment of the "Problem Drinker."*]

Complete information, including rates, will be furnished to physicians on request.

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BOOK REVIEWS (Continued)

University of Illinois College of Medicine; Formerly Assistant Director of Laboratories, University of Illinois Research and Educational Hospitals, Chicago, Illinois. Fourth Edition. 1146 Pages. 221 Illustrations and 13 Plates, 10 in Color. Published by Lea & Febiger, Philadelphia 6, Pa. Published October, 1951. Price $12.00.

The 4th Edition of this text meets the same high standards of scholarship revealed in the previous editions. It is larger, there are many new illustrations and sections have been rewritten. Chemical methods presented have been critically revised to simplify each step as much as possible. New methods have been included where experience has demonstrated their value.

The recommended nomenclature in hematology approved by the A.M.A. and the American Society of Clinical Pathologists has been included.

This text should be of value to inexperienced and qualified laboratory technologists alike.

J. W. P.

PRACTICAL GYNECOLOGY. By Walter J. Reich, M.D., F.A.C.S., F.I.C.S. and Mitchell J. Nechtow, M.D. With 187 Illustrations, Including 55 Subjects in Color. Published by J. P. Lippincott Company, Philadelphia, Copyright 1950. Price $10.00.

This work is the outgrowth of years of experience of the authors in conducting classes at the Cook County Graduate School of Medicine and in the gynecologic outpatient clinics of the Cook County Hospital.

The authors have very successfully recorded for their reading audience the simple diagnostic methods and practical office procedures in which students and physicians in their classes have shown the greatest interest. The material is quite comprehensive and covers most of the problems which will arise in general practice.

The photographs (many in color) and illustrations have been selected with great care.

J. W. P.

ANTIBIOTIC THERAPY. By Henry Welch, Ph.D. Director, Division of Antibiotics, Food and Drug Administration, Federal Security Agency of the United States Government, and Charles N. Lewis, M.D., Medical Officer, Division of Antibiotics, Food and Drug Administration, Federal Security Agency of the United States Government. Foreword by Chester S. Keefer, M.D. Wade Professor of Medicine, Boston University School of Medicine, Chairman, Committee on Medicine and Chairman, Committee on Chemotherapy of the National Research Council. Published by The Arundel Press, Inc., Washington, D. C. Copyright 1951. Price $10.00.

A very creditable attempt is herein made to present a comprehensive review of the common antibiotics in use today.

The first chapter defines terms and introduces a

(*Continued on page* 68)

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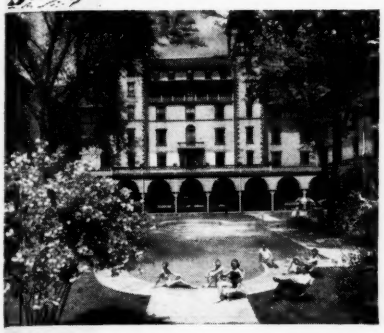

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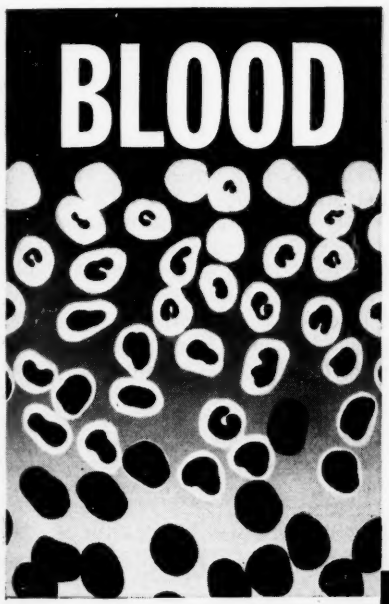

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resume of the development of each of the common antibiotics and a brief biological sketch of their separate discoverers.

The book is divided into three main sections. "The first part deals with the isolation and development of the antibiotics. The second part with a detailed discussion of each antibiotic, including antimicrobial spectrum, pharmacology and dosage forms. The third part is devoted to a discussion of the treatment of specific diseases and an attempt is made to sum up the experience and results of the use of a variety of antibiotics in individual diseases."

At the close of each chapter is a selected bibliography and at the close of the test are several pages of references.

The quality of the paper and binding, as well as the type, leaves much to be desired.

J. W. P.

BOOKS RECEIVED

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

SURGICAL GYNECOLOGY — Including Important Obstetric Operations. By J. P. Greenhill, M.D. Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital; Attending Obstetrician and Gynecologist, Michael Reese Hospital. Illustrated by Angela Bartenbach. The Year Book Publishers, Inc., Chicago. $8.50.

HISTOPATHOLOGICAL TECHNIC. Including a Discussion of Botanical Microtechnic. By Aram A. Krajian, Sc.D., formerly in Department of Pathology, Los Angeles County General Hospital, Los Angeles, Calif. and R. B. H. Gradwohl, M.D., Pathologist to Christian Hospital; Director, Gradwohl School of Laboratory and X-Ray Technique, St. Louis, Mo. Second Edition. With 131 Text Illustrations and 7 color plates. The C. V. Mosby Company, St. Louis, 1952. $6.75.

ALLERGIC PRURITUS — Its Dermatologic Management. Stephan Epstein, M.D., Editor. An official publication of The American College of Allergists, Inc. Bruce Publishing Company, Saint Paul and Minneapolis, 1952. $2.50.

FUNDAMENTALS OF PSYCHIATRY. 5th Edition. By Dr. Edward A. Strecker, M.D., F.A.C.P., Professor of Psychiatry and Chairman of Department of Undergraduate and Graduate School of Medicine, University of Pennsylvania. J. B. Lippincott Company, Philadelphia. $4.50.

THE CASE AGAINST PSYCHOANALYSIS. By Andrew Salter. Henry Holt and Company, 383 Madison Avenue, New York. $2.50.

Clinical Significance

By virtue of its dual capacity to reduce blood pressure and yet increase blood flow through the kidney, Apresoline provides a new and improved approach to the medical management of hypertensive disorders. Its value is augmented by its tendency to cause significant relaxation of cerebral vascular tone in hypertensive patients, oral as well as parenteral effectiveness, and relatively low toxicity.

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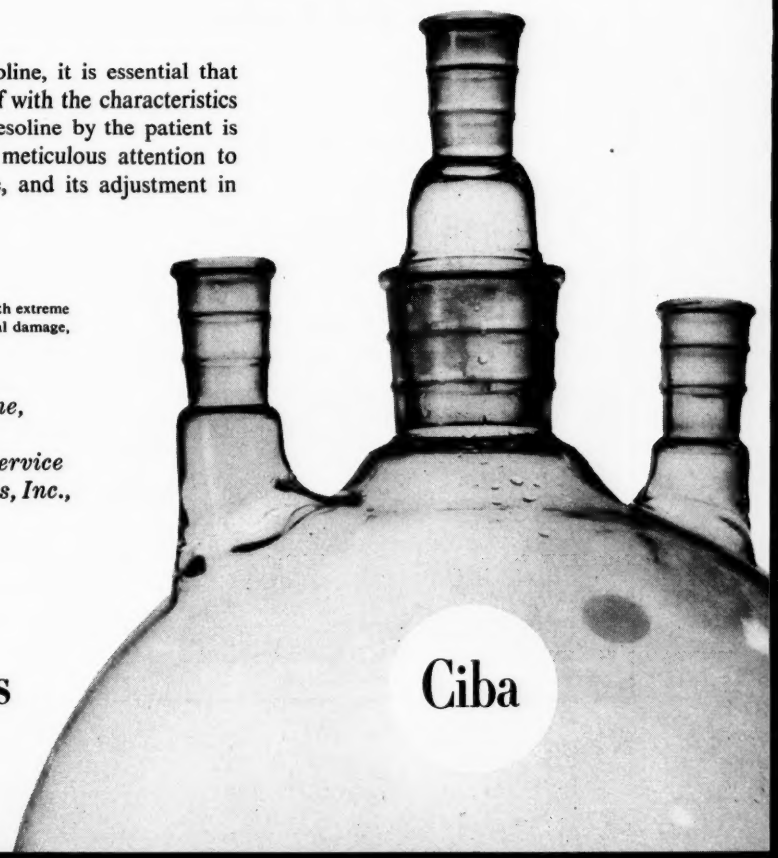
For complete information on Apresoline, contact the Ciba Professional Service Representative or write the Medical Service Division, Ciba Pharmaceutical Products, Inc., Summit, New Jersey.



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THE MARY POGUE SCHOOL

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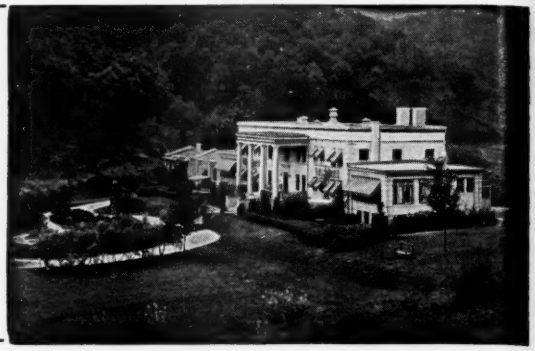

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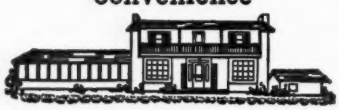

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URGE M.D.'s TO QUIT REFRACTION

Harrisburg, Pa., Oct. 26.—A new wrinkle in the practice of optometry has been proposed in an editorial in the publication, "The Southern Optometrist," according to the Public Relations Reporter of the Medical Society of the State of Pennsylvania.

Pointing out that "optometry renders a superior service in the field of refraction," the editorial states that "we believe that medicine has no more professional or moral right in the field of refraction than optometry has in the field of medicine."

"We believe the time has arisen for optometry to step out of a defensive position into an offensive position and remain so until the field of non-pathological eye care is relinquished by medicine and assumed in its full scope by optometry.

"Our public relations department should educate the public that refracting, prescribing and fitting glasses are not any part of medicine, and, therefore, and for the benefit of the public who receive superior service from the optometrist, the medical man should retire from the field of refraction." *Exterpt: The Medical Forum, Wis. Med. J. 50:243 Dec.], 1951.*

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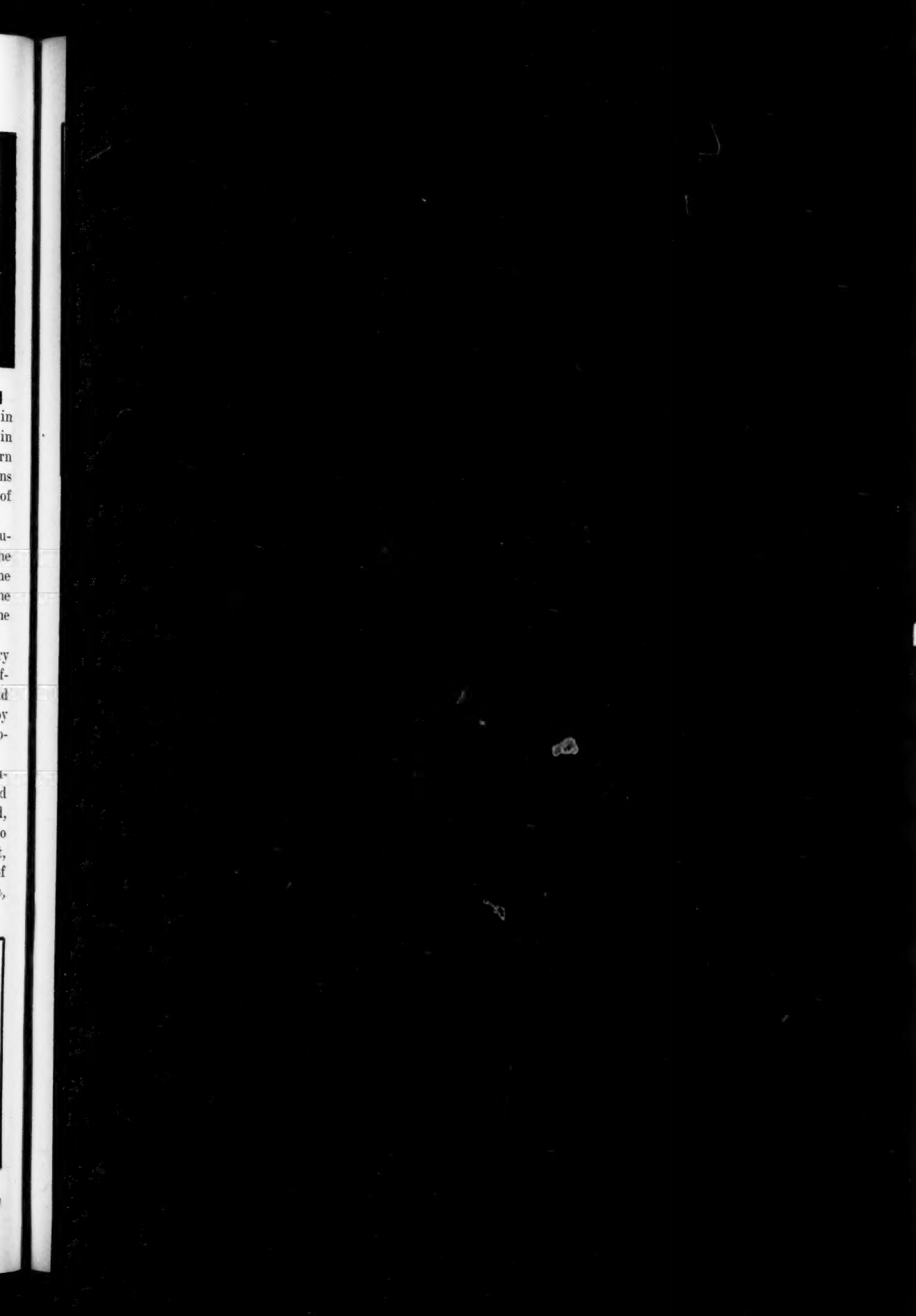
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